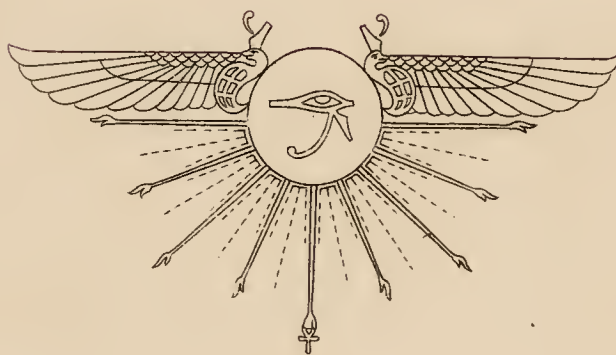


13067/B.

C. XIV. 12.

EX LIBRIS



WELLCOME BUREAU OF SCIENTIFIC RESEARCH

LONDON

T. 1 - W.B.S.R.

24984

THE PROPERTY OF
THE WELLINGTON BUREAU
OF SCIENTIFIC INSTRUMENTS

Goodwin
23/4/00

AN
ESSAY
ON THE
Medical Constitution
OF
GREAT BRITAIN.

TO WHICH ARE ADDED

OBSERVATIONS on the WEATHER, and the
DISEASES which appeared in the Period in-
cluded betwixt the first of January 1758,
and the Summer Solstice in 1760.

TOGETHER WITH

A NARRATIVE of the THROAT DISTEMPER, and
the MILIARY FEVER, which were epidemical in
the Duchy of Cleveland, in 1760. Likewise, Ob-
servations on the Effects of some Anthelmintics, par-
ticularly of the Great Bastard Black Hellebore, or
Bear's-foot.

L O N D O N:

Printed for A. MILLAR, and D. WILSON, in
the Strand. MDCCCLXII.

24984



TO

DR. JOHN PRINGLE,

PHYSICIAN to her MAJESTY'S HOUSHOLD,

The following Sheets

Are inscribed with great Regard,

By his most obedient

and most humble Servant

Shelton in Cleveland,
Oct. 29. 1761.

CHARLES BISSET.

Digitized by the Internet Archive
in 2018 with funding from
Wellcome Library

<https://archive.org/details/b30524945>

T H E
P R E F A C E.

THE principal design of the following Essay is to exhibit the effects produced in the human body by the vicissitudes of the seasons, and the different temperatures, and most remarkable changes of the weather, throughout the year, in Great Britain; with a view to investigate the external causes, and the genuses of all the diseases incident to the inhabitants of this island, whose predisposing and exciting causes depend wholly, or in a great measure, on the air. By thus ascertaining and setting in a clear light these essential points, they will naturally lead us to the discovery of the most effectual means of guarding against those diseases, whose general treatment they will very much contribute to determine ;
a and,

P R E F A C E.

and, besides, will be not a little conducive towards preventing the errors in practice we are apt to fall into, by sometimes not adverting to the real causes and geniuses of new diseases, or those peculiar to the seasons, at their first appearance; or to the variations which these suffer by the influence of subsequent temperatures, and changes of the weather. This, I own, is an arduous attempt, much above my capacity; yet I flatter myself the sketch I present to the public contains some useful observations, and may incite some able experienced physician to exert his talents in executing a more perfect work on the like plan.

THE medical year I divide into five periods; the first of which begins at the summer solstice and ends with the month of July: the third

P R E F A C E.

commences at the autumnal equinox, the fourth at the winter solstice, and the fifth at the vernal equinox. I make the first a distinct period from the vernal and autumnal ones; because in the beginning of that interval the diseases, and the *diatheses*, or dispositions, of the body that usually prevail in the spring, are in general worn out, or very much abated, or varied; and in the latter part of it the autumnal diseases are not generally begun. The interval betwixt the winter solstice and the first of February cannot, with like propriety, be deemed a distinct period; because in mild winters the vernal diseases usually begin to appear soon after the winter solstice.

THE observations on the weather, and the diseases that appeared, in the period included betwixt the first of

P R E F A C E.

January 1758, and the summer solstice in 1760, I have annexed to the following essay; partly because that period was remarkable for the occurrence of several epidemic diseases, and partly because these observations will serve to illustrate some material particulars contained in the said essay. I have, throughout the whole, aimed at conciseness and perspicuity, rather than elegance in style; and the paragraphs are numbered that the references may be more distinctly pointed out. As I could not attend to correct the press, I hope the reader will the more readily excuse typographical errors.

T H E

THE
CONTENTS.

CHAP. I.

OF the British Air in general

CHAP. II.

Of the Period included betwixt the Summer
Solstice and the first of August 13

CHAP. III.

Of the Period included betwixt the first of
August and the Autumnal Equinox 34

CHAP. IV.

Of the Period included betwixt the Autumnal
Equinox and the Winter Solstice 61

CHAP. V.

Of the Period included betwixt the Winter
Solstice and the Vernal Equinox 91

CHAP. VI.

Of the Period included betwixt the Vernal
Equinox and the Summer Solstice 116

CHAP.

C O N T E N T S.

C H A P. VII.

Of the Constitution of the Air, in the Year 1758, and that of the subsequent Spring, relative to the Duchy of Cleveland, in Yorkshire 158

C H A P. VIII.

Of the Diseases which happened in Cleveland, betwixt the Summer Solstice, and the Autumnal Equinox, in 1759; with some Cases of the bilious Fever, as it appeared there in July and August the same Year 204

C H A P. IX.

Of the Diseases which appeared in Cleveland, betwixt the Autumnal Equinox, in 1759, and the Summer Solstice following; with some Observations relative to the outward Causes of Intermittents. 260

A Narrative of the epidemic Throat Distemper, and miliary Fever, as they appeared in the Duchy of Cleveland in 1760 285

Observations on the Effects of some Anthelmintics; particularly of the great bastard black Hellebore, or Bear's-foot 329

E R R A T A.

Page 12. l. 13. read *are nevertheless*. P. 20. l. 6 for *trachæa*, r. *trachea*. P. 21. l. 11. for *plaintain*, r. *plantain*. P. 28. l. 8. r. *and throughout*, for *diarrhæa*, r. *diarrhoea*. P. 39. l. 17. for *aguey*, r. *aguish*. P. 44. l. 17. for *droughty*, r. *dry*. P. 50. l. 32. for *reasoning*, r. *remarkable*. P. 58. l. 10. for *weathers*, r. *weather*. P. 66. l. 15. for *lowest*, r. *lower*. P. 68. l. 4 and 9. r. *hypochondriac*. P. 70. l. 15. for *diathesis*, r. *diatheses*. P. 71. l. 17. for *hæmiplegia*, r. *hemiplegia*. P. 81. l. 20. dele *of*. P. 90. l. 12. for *borborymi*, r. *borborygmi*. P. 93. l. 27. r. *or of being*. P. 100. l. 13. for *king-cough*, r. *chin-cough*. P. 104. l. 2. for *cachexis*, r. *cachexy*. Do. l. 3. for *febricule*, r. *febricula*. Do. l. 14. dele *the*. Do. l. 20. r. *and occasions*. P. 107. l. 11. for *hemiplegia*, r. *hemiplegia*. P. 125. l. 14. for *dyspnæa*, r. *dyspnæa*. P. 127. l. 25. r. *and florid*. P. 129. l. 16. for *expulsions*, r. *repulsions*. P. 135. l. 21. r. *is necessarily*. P. 136. l. 5. r. *on the*. P. 140. l. 14. for *causes*, r. *cases*. P. 159. l. 18. for *a cold temperate*, r. *a mild or temperate*. P. 187. l. 20. for *apthous*, r. *apthous*. P. 191. l. 11. for *stranguary*, r. *strangury*. P. 194. l. 19. for *Turmetic*, r. *Turmeric*. P. 197. l. 22. dele *an*. P. 198. l. 21. dele *the*. P. 205. l. 23. r. *and erysipelatous*. P. 210. l. 1. of the Notes, for *tertians*, r. *tertian*. P. 246. l. 17. for *vituline*, r. *vitelline*. P. 256. l. 21. for *phthysical*, r. *phthysical*. P. 277. l. 17. for *stranguary*, r. *strangury*. P. 282. l. 10. for *invades*, r. *invaded*. P. 294. l. 11. r. *was a common*. P. 297. l. 22. for *for*, r. *from*. P. 299. l. 7. for *epigastrium*, r. *epigastrium*. *ibid.* for *hypocondrium*, r. *hypochondrium*. P. 300. l. 23. for *faint*, r. *fainting*. P. 310. l. 22. r. *they were afterwards*. P. 317. l. 23. r. *happened, and that*.

AN
ESSAY
ON THE
Medical Constitution of Great Britain.

CHAP. I.

Of the British Air in general.

I. **T**HE weather in general is more temperate, and the transitions from cold to heat, and from heat to cold, take place in a much less degree in islands, than upon the continent, especially in such islands as lie remote from it; for the following reasons. 1. In the northern hemisphere, the winds (upon which the different temperatures of the weather greatly depend) when northerly, are generally much colder in places that have them from the continent, than in such as have them from
B the

2 *Of the BRITISH AIR in general.*

the sea, at least, when the sun is to the southward of the equator; the atmosphere of the land being apparently more impregnated with nitre than that of the sea, which gives the former the ascendant in point of coldness. 2. The southern winds that blow over a great extent of land to any place of the continent, in the summer months, are generally much warmer than such as blow immediately from the sea; provided these land-winds come not from very high mountains topped with snow; because the earth is susceptible of an higher degree of heat from the sun, and retains it much longer than the water; which acquired heat, together with the reflection of a greater portion of the solar rays from the land, necessarily occasions the lower air of low lands to be much warmer than that of the sea in sultry summer weather. Hence the reason why the summer in general is less sultry, and the winter milder, in Great Britain, than in the countries of the opposite continent that lie in the same latitude with it; and why the winter is generally milder in Ireland, than in Great Britain.

2. IN hot and dry summer weather, the sea air is cooler, at least in the day-time, and of a more uniform and salutary temperature, than the land air; not only for the reasons abovementioned, but likewise because a more copious watery exhalation is then raised from the sea, than from the land (except in such places of the land as are very marshy or woody); especially in the close of a long course of drougthy weather, when the ground is much parched, and plants are less succulent; for the heat of the air is much diminished by humid vapours. Hence the reason why drougthy summers are generally very fruitful; and why the inhabitants of places on the sea coast that are dry, and uninfluenced by the vapours of marshes, are less subject to the diseases that result chiefly from an exceeding hot and dry summer, than those of inland towns.

3. IN Great Britain, easterly winds are usually most frequent in March, April, May, and June; and sometimes they are also frequent in July, August, and September, especially in August: in the other

B 2

months,

4 *Of the BRITISH AIR in general.*

months, the winds for the most part are westerly. In some sultry days in June, July, and August, the coast is fanned by a pretty regular sea-breeze, and with a gentle land-breeze in the nights: yet a long summer drought is usually attended, on the eastern coast, by gentle breezes from the sea, betwixt the South-east and the North, and North-west points, which very seldom are supplanted by a nocturnal land-breeze, while the dry sultry weather continues.

4. THE weather is sometimes dry and serene, and sometimes rainy, or showery, close, cloudy, hazy, or foggy, with every wind; yet cloudy, and rainy weather is more frequently induced by winds from between the South-east and South-west points, than by such as blow from any other points of the compass; especially if those winds supplant others that blow from opposite points. Foggy weather, with drizzling rain, most commonly accompanies easterly winds in April, and May, after a long course of frosty weather.

5. THE moisture that often attends southerly winds is more penetrating, and septic, than the concomitant moisture of colder winds; because the former, with its attendant warmth, very much relaxes the solids, enlarges the pores, and rarifies the fluids; but the condensing power of the coldness of other winds counteracts in a great measure the relaxing and septic qualities of their concomitant moisture. Yet in Great Britain the South wind is rarely so pernicious, by its moisture, and warmth, as to give rise to malignant epidemic diseases, as it often does in some southern countries on the continent, where it is exceeding warm, and generally fraught with other noxious effluvia, as well as moisture; because the South wind bloweth over the Channel in its way to this island, and is therefore both pure and temperate when it reaches the southern coast. Besides, as the heat of the air is much diminished by moisture, wet summer weather is generally temperate in Great Britain. A long course of close and moist warm weather in summer, or of mild, or temperate, and somewhat moist weather in winter, with south-

6 *Of the BRITISH AIR in general.*

erly winds, generally predisposes the habit to, and sometimes contributes to excite, but seldom alone generates malignant epidemic diseases; the native prevailing diseases in this Island being in general generated, and excited, by the frequent changes of the weather peculiar to Great Britain, such as the following. 1. A cold and moist temperature of the air, consequent on a long course of weather that is either dry and sultry, or warm, close and moist, or intensely cold and dry, with keen frost; and *vice versa*. 2. Changeable weather. 3. Very cold and dry, or frosty weather, with brisk piercing winds, consequent on a long course of mild weather with southerly winds, and succeeded by southerly winds with a moist and temperate, or warm air. 4. Cold unseasonable weather in summer, and unseasonable warm or mild weather, with southerly winds, in winter, supplanted now and then by opposite extremes of the weather. Bilious fevers are sometimes generated in England by a very hot and dry summer; but they become not rife till towards the beginning or middle of August, when the nights are lengthened, and
often

often cold, so as to occasion a considerable difference betwixt the temperatures of the air in the days and nights. Malignant fevers supervened by petechiæ, or by flat miliary pustules, or by an alvine flux, are sometimes excited by a long course of close, moist, and warm summer weather, consequent on a long course of unsalutary weather whose temperature in general is cold and moist; but these fevers seldom become rife till towards the middle or end of August, at soonest, when the temperature of the weather becomes somewhat cold, or when the difference is great betwixt the temperatures of the air in the days and nights: and such malignant fevers are very rarely epidemical in salubrious country towns, and villages, nor even in the metropolis, in Great Britain. Upon the whole it appears, that external cold generally constitutes the chief exciting cause of epidemic and prevailing diseases in Great Britain; exclusive of the effluvia of such as labour under the reigning disease, and of some other local and accidental causes.

8 *Of the BRITISH AIR in general.*

6. THIS island, by its surrounding sea, which is the principal source of rain, has the sea-clouds imported by every wind, which are, I suppose, condensed by the cold land air over the tops of high lands, and by the cold humid vapours arising from plants, so as to be precipitated in rain: it is therefore, throughout the year, very subject to frequent showers, and to cloudy, hazy, close, and foggy weathers; wherefore a long uninterrupted course of dry serene weather is an extraordinary occurrence in Great Britain. The frequent variation of the winds, at all times of the year, in this island, is also a principal cause of the humidity and inconstancy of the weather; for each wind is most commonly succeeded by more or less of a calm, especially if the rising wind comes from an opposite point to the preceding; which calm diminishes, in some measure, the elasticity of the air, and therefore is apt to induce rain; especially as the clouds are collected in the calm air by the occurrence of the opposite winds.

7. IF

7. IF much rain falls in the period included betwixt the vernal equinox and the summer solstice, the weather for the most part is rainy or showery for a considerable time after; and on the contrary. For such frequent showers, in that period, greatly increase the growth and succulency of vegetables, which, together with the humidity of the ground, yields an abundant watry exhalation, which is soon returned in heavy showers mostly to the countries whence it arose; besides, the elasticity of the air is much diminished, and its coldness is increased by such a copious watry exhalation, so as to cause the sea clouds to tend thereto, and to be condensed and precipitated in the form of rain. Such a long course of rainy weather is generally at length terminated by brisk winds that continue to blow for several successive days, especially if from the northern quarter; whereby the clouds and rising exhalations are carried off, and showers are suspended till the fields become dry, and plants less succulent; after which they yield but little exhalation, the air becomes dry and elastic, and a long course of fair weather is

10. *Of the BRITISH AIR in general.*

is most apt to ensue. A long series of rainy weather may also be checked by long continued frosts in winter.

8. A LONG drought is often terminated by rain induced by calms from opposite winds as abovementioned (6.), and sometimes by thunder. It is sometimes also terminated by cold easterly winds which condense the watery vapours. In the end of July, and in August and September, showers, and great falls of rain are often occasioned by the coldness of the nights, especially if the nocturnal dews are then heavy; for these dews, on ascending in the mornings, diminish the elasticity of the air, and have the other effects beforementioned (7.), so as to induce rain. Both snowy and rainy weather is generally preceded by an increase of the coldness of the air; especially if such foul weather is brought on by northerly or easterly winds; because the air is cooled, and the rays of the sun are in a great measure intercepted, by the abundant dense exhalations then floating in the atmosphere.

9. THO' the frequent changes of the weather, and the prevalence of a moist, and somewhat cold air, render the inhabitants of Great Britain obnoxious to many diseases, excited for the most part by the influence of external cold; yet epidemic diseases of great malignity are much greater strangers in this island, than in most countries on the continent; because the former is fanned in its whole circumference by the pure and temperate sea winds, and very seldom has the weather hot or cold in extremes, as it is often upon the continent. The moisture of the British air, (which for the most part is somewhat prevalent) by relaxing in some measure the fibres, promotes accretion; and a cold temperature of it, which also frequently prevails in a moderate degree, condenses the solids and fluids, and strengthens the whole body. Hence partly it is that the natives of Great Britain, in general, are bigger bodied, broader chested, and more robust, than those of most other countries: and tho' many of them are subject to some obstinate diseases, mostly of the scorbutic and rheumatic kinds, chiefly from cold, moist, and

6 change-

changeable weather, joined with dense foods, or with luxury, or a gross and humoral, or a puny and delicate state of the personal habit, yet a greater proportion of the inhabitants of this island live to a great age, than of those of any country on the continent that I know; at least in healthful farms and villages, where the people are generally most temperate and undebauched by spirituous liquors. The dense and rich nutritive foods of the inhabitants of this island in general, tho' a fruitful source of many diseases, is nevertheless a principal cause of their strength, good size, and florid complexions.

C H A P. II.

Of the period included betwixt the summer solstice and the first of August.

10. **T**HE weather in general, in this period, is for the most part somewhat sultry, dry, and uniform, with little difference betwixt the temperatures of the air in the days and nights. The air is consequently pretty serene, heavy, and elastic; its exhaling power is great; and the ground is dry. Therefore, tho' the solids, chiefly at the surface of the body, are now expanded and relaxed, yet perspiration is copious, and nearly uniform in the days and nights; the blood in general, at least towards the end of this period, is thinner, more fluid, and less disposed to form obstructions, and inflammations, than in the preceding period included betwixt the vernal equinox and the summer solstice: the circulation consequently is free and equal; the several animal functions are well performed; the acrid humours that
are

14 *Of the Period included betwixt the*

are the chief source of the land scurvy, rheumatisms, and other vernal diseases, (which were accumulated in the habit, chiefly from a diminution of perspiration, from cold, and moist, and changeable weather, in the course of three preceding periods) are now carried off by insensible perspiration and sweat; and the inflammatory and scorbutic dispositions, which are usually most prevalent betwixt the vernal equinox and the summer solstice, now recede, or are greatly diminished. Hence it is that persons of good constitutions are generally strong, active, and alert, in this period; and that peasants are enabled to undergo with ease the hard labour of cutting down their hay, which is the severest attending the business of husbandry. And if the weather, in this interval, is pretty uniform and temperate both as to heat and moisture, and there reigned not an epidemic disease in the preceding period, fewer cases of diseases from the influences of the antecedent and present weathers, or from colds, now occur, in salubrious places, than at any other time in the year.

11. YET persons of very delicate and tender habits, and particularly such as are often more or less indisposed, chiefly in consequence of lax fibres, and weak nerves, are generally less healthy in this period, and the forepart of the subsequent, even when the weather is seasonable, uniform, and salutary, than in clear, dry, and pretty cold, or frosty weather, in the close of autumn, and in winter. For the laxity and debility of the fibres are greatly increased, in such tender persons, by the sultry heat, especially if southerly winds prevail; and in those who happen to labour under a cachectic state of the habit, perspiration is frequently diminished, and the disease increased, by so great a relaxation of the solids; while others sweat in great profusion, so as to evacuate a great share of their most salutary juices. Hence all such feeble and relaxed persons become heavy, languid, and spiritless, very weak and faint; and now often acquire a disposition to very slow, or latent nervous fevers, and to scorbutic, rheumatic, hysteric, and hypochondriac affections, fluxes, cachexies, and dropsies. Yet to some individuals under obstinate

nate

nate hypochondriac, rheumatic, and other chronic affections, from a copious scorbutic humour, if their constitutions are not naturally very puny, such profuse sweating in this period, and the forepart of the subsequent, is often very serviceable, by evacuating the peccant humour, and promoting a salutary crisis of the chronic disease; especially as the skin is commonly dry, and the cutaneous discharges are much impaired, under such diseases. Persons of lax fibres and weak nerves are generally most languid about noon, or when the sun is high in the horizon; in the evening, when the air becomes cool, they are more alert, and have better spirits, and a tolerable appetite.

12. THO' a long uniform course of warm or sultry weather, rarifies and thins the blood, and occasions a general recession of the inflammatory disposition, or prevents its prevalence; yet as, in Great Britain, there are commonly great transitions, in May and June, and sometimes too in the forepart of July, from a warm or sultry and dry state of the weather, to the contrary,
and.

Summer Solstice and the first of August. 17
and *vice versa* ; inflammatory diseases, and chiefly pleurifies and pleuroperipneumonies, are often more rife in June, and sometimes too in the forepart of July, than at any other time in the year. For the frequent, sudden and great alternate rarefaction, and condensation of the solids and fluids from those vicissitudes of the weather, are very apt to induce a considerable lentor of the blood and serum, and consequent partial obstructions in the sanguiferous vessels, with an inflammatory or phlegmonous fever, and a very dense and sify state of those vital juices ; and as the fibres of the lungs are greatly relaxed by the warm weather, antecedent to the chilling cold by which the disease is excited, the obstructions which give rise to the inflammatory disease are most apt to form in the pulmonary vessels : and it is observable that the lungs are more apt to be principally affected, when both the weather that predisposes to, and that which excites the internal inflammation, are attended with moisture, by which the laxity of the pulmonary fibres are necessarily increased.

13. THE great and sudden rarefaction of the blood, and of the solids, on the accession of very sultry weather in July, after a cold state of it, is apt, in particular habits, to give rise to profuse and dangerous hæmorrhages; which are generally in some measure excited, and promoted, by an acrid peccant humour; which is rendered more active, and stimulating, by the increased heat, and great rarefaction of the blood, so as sometimes to induce a vehement fermentation, or ebullition of this vital juice; upon which an over-proportion of it is determined upwards, and a blood vessel is burst in the stomach, or intestines, or in the lungs, fauces, or nose, or in the encephalon: for young women who have a suppression of the menses, and those who are subject to internal scorbutic and rheumatic affections, or have a natural disposition to a pulmonary consumption, are most subject to such hæmorrhages. Sometimes the hæmorrhage is occasioned wholly by the irritation from the acrid humour in the habit, joined with an effort which nature exerts towards expelling it from the noble parts; whence there arises a commotion,

Summer Solstice and the first of August. 19

motion, or fermentation in the blood, with great heat and rarefaction of it, which occasions the bursting of a blood-vessel in some internal part where there is the least resistance, and most commonly in the stomach. Or the acrid humour is determined, by the expulsive faculty, with a considerable force upon the inward surface of the stomach, or other internal part, so as to occasion the bursting of a vessel there: and sometimes the hæmorrhage is induced by external cold, most commonly in the close of autumn; which occasions a determination of morbid humours, or retained perspirable matter, and of an over-proportion of juices, internally, and generally to the alimentary tube; whence an hæmorrhage from the stomach or intestines: the dysentery is often excited by the like cause. The hæmorrhages that are excited chiefly by a scorbutic humour, are commonly attended by unfizy blood: but those that happen in persons of a florid or ruddy complexion, or such as are naturally predisposed to, or that labour under, a pulmonary consumption, are attended by a very fizy state of the blood; and this hæ-

morrhage with a fizy blood, which is commonly attended by great heat and rarefaction of the blood, or an inflammatory ebullition of it, chiefly in the superior parts of the body, generally proceeds from the lungs, trachæa arteria, fauces, or nose. Ardent fevers that happen in the end of July, and in August, are very apt to be supervened by a profuse hæmorrhage from the nose, if the disease is accompanied with vehement vomiting. This hæmorrhage is sometimes occasioned by the great rarefaction and expansion of the blood, joined with a laxity and debility of the solids only; but it is for the most part occasioned chiefly by the action of vomiting. The blood, in this symptomatic hæmorrhage, is generally florid, and rather of a lax consistency *.

14. IF,

* In hæmorrhages with unfizy blood it is seldom necessary or proper to draw off much blood with the lancet: but in the inflammatory species with dense fizy blood, a frequent repetition of venesection is generally necessary both for suppressing the hæmorrhage, and preventing its return. In this species, austere astringents are often detrimental; especially if attended by a cough, or by ardent febril paroxysms; and the bark, opiates, and the cold bath, are sometimes quite improper, and generally

14. IF, in this period, or the latter part of the foregoing, waim and somewhat moist southerly winds are succeeded by chill, dry, and brisk North-east winds, tender persons readily contract summer colds: and as the pituitous and salival glands, and the bronchial, are previously much relaxed, these colds

generally much less efficacious therein, than in the first species with unfizy blood. Cold spring water well acidulated with spirit of vitriol, or both acidulated and impregnated with the juice of houseleek or plantain, and cold topics, are excellent against both these species of the hæmorrhage; and if the bleeding is attended by great heat and rarefaction of the blood, and extreme thirst, that drink will be improved by the addition of a very small proportion of nitre. Glysters and mild cooling laxatives are absolutely necessary towards abating the great internal heat, and the vehemence of the paroxysms, and carrying off some share of the acrid morbidic humour, and promoting perspiration; for the diaphoresis is increased by whatever lessens the vehemence of the disease, so as to relieve nature, and consequently occasion a more free exertion of the powers of the body. And as the blood is acrid, or vitiated by an acrid humour, in these hæmorrhages, particularly in the inflammatory species with a fizy blood, light cooling demulcents, and churn-milk in particular, are very serviceable. The remarkable good effect of the bark in suppressing some hæmorrhages and preventing their return, particularly when the blood is unfizy without a cough, or an hectic tendency, or an ardent continued or remitting fever, depends not on its astringent or antiseptic qualities, but on its specific quality in suppressing the ebullitions

22 *Of the Period included betwixt the*

colds are often attended with profuse rheums from the head, and an obstinate and vehement moist cough; especially if the cold dry weather by which they are excited, is succeeded by a moist temperature of the air, with southerly winds; and in such tender persons, and also in those of a gross habit of body, they sometimes induce an asthma, or a true or spurious peripneumony; and in such as have a scrophulous disposition, or a florid complexion with a natural predisposition to the inflammatory hæmorrhage with a fizy blood, the said colds are apt to degenerate into a pulmonary consumption. Hence

of the blood which excite and promote the hæmorrhage, and causing an equal distribution of the blood, and native heat throughout the body; for in some of those hæmorrhages the feet are cold while the superior parts are intensely hot; and also by corroborating the whole body, and consequently increasing the concoctive, depurative, and effluent faculties, and thereby enabling nature to separate the acrid peccant humour from the sound juices, and to expel it by its proper emunctories, or outwards in the form of a critical disease: the cold bath, and chiefly bathing in the sea, in the decrease of the disease, is productive of the like good effects, in the said hæmorrhage with unfizy blood, without any cough or an hectic disposition; especially if it results from a suppression of the menses.

also

also the reason why the hooping-cough is more apt to become epidemical among children, and such as have not undergone the disease, in the summer, and forepart of the autumn, than at any other time in the year; especially when the summer and autumn are extraordinary rainy or showery; of which two instances have fallen under my observation in the duchy of Cleveland. The same common outward causes, either alone or joined with the influence of some occasional or accidental cause, or with some previous indisposition, will also excite catarrhal and inflammatory diseases in persons of good constitutions. But the inflammatory diseases, with a fizy blood, that happen in this period, generally require less bleeding than those that occur betwixt the vernal equinox, and the summer solstice. The abovesaid common outward causes do also give rise to fluxions that are partly inflammatory and partly oedematous; likewise to remitting and intermitting fevers, alvine fluxes, the dry gripes, and an aggravation of pulmonary consumptions. The same diseases are also excited, when a warm and very dry tem-

24 *Of the Period included betwixt the*

perature of the air with gentle breezes betwixt the North and South-east points, in May and June, is succeeded in the end of June and the forepart of July, by weather that is moist and extraordinary cold for the season, as in 1758: likewise when some sultry days are succeeded by some successive days of cold dry weather, and these by warm moist weather, as in 1760.

15. If northerly and easterly winds prevail in this period, and the weather in general is rather dry than otherwise, and somewhat cold for the season; most of the vernal diseases, particularly such of them as were most rife in May and the forepart of June, will be continued in this period: but the obstinacy of such of them as depend either on an inflammatory, or scorbutic disposition, will now in general be diminished. But if dangerous fevers, both catarrhal and inflammatory, were rife in May and June, under a very dry state of the air, with northerly and easterly breezes; and became more rife and inflammatory, in the forepart of July, from unseasonable cold and moist weather; and the weather
after

after the middle of July is moist, close, and warm, these fevers will become less catarrhal, and little or nothing inflammatory, but their malignity in many instances will be increased, almost immediately after the commencing of moist, close, and warm weather in the middle of July; and in some cases, the disease will be supervened by petechiæ, or by some flat miliary pustules, or by phlyctænæ; and in others by a symptomatic diarrhæa, or a dysentery: and if the warm, close, and moist weather in July, is succeeded by a long course of cold and moist weather in August and September, as in 1758, this change, by determining the morbidic humour to the bowels, will give rise to malignant dysenteries, and to some cases of the tenesmus and dry gripes; and to a few of the iliac passion. But these dysenteries will be rare or epidemical, only in some particular places subject to local or accidental auxiliary causes; such as the effluvia from marshy or oozy ground, or of low ground with wet ditches, that has the subterraneous water within three or four feet of the surface; some degree of the proximate cause of the
jail

jail distemper; brackish or putrid water, or stale beer, used for common drink; fresh flesh or fish eaten in excess; unsound corn, and the like; and they will scarce appear in salubrious places, particularly in country villages, exempt from these auxiliary causes; provided they are not brought to, and propagated in such villages by the effluvia of patients under the disease. Yet in healthful places some inflammatory, rheumatic, and catarrhal diseases will appear at the same time, together with a few cases of the tenesmus and dry gripes; as in 1758. Hence it appears that the morbid constitution of the atmosphere, in any particular period of the year, is not to be estimated wholly by the diseases which appear in the course of it in any one town. When a malignant disease becomes very rife or epidemical, in any particular town, chiefly from the influence of local or accidental auxiliary causes, in concurrence with the effluvia of the sick, while the inhabitants of the neighbouring towns and villages are healthy, such a disease, if those auxiliary causes are overlooked, is apt to be imputed to imported infection. Great trading

trading towns, however, are far more obnoxious to infectious diseases by importation, than small country towns and villages: and diseases that are more or less infectious do more readily spread, and are generally more fatal in great towns, than in salubrious villages (17.)

16. ABOUT the middle of July the inflammatory disposition generally gives place to the bilious with a thin and florid state of the blood; which is more or less prevalent in the latter part of this month, and in August and the forepart of September, according as its antecedent and attendant weather is more or less dry and sultry. But if the weather towards the end of July, and in the forepart of August, is very warm, close, and moist, the bilious disposition will be combined with the putrid or petechial, and generally with more or less of the catarrhal and dysenterical. Indeed petechial and miliary fevers that result from the influence of the weather, and are not propagated almost wholly by infection, as they are usually generated by changeable weather, with a prevalent moist temperature

ture of the air with southerly winds, are generally in some measure catarrhal, that is, attended by more or less of a cough, or pain, or oppression, or stoppage in the breast: provided the rheum, which is the chief immediate cause of the fever, is not determined in a great measure to the bowels, so as to give rise to a diarrhæa or a dysentery, as is not unfrequent; especially towards the autumnal equinox, when that morbidic humour is apt to be determined inwards by external cold, and hath a peculiar tendency to the intestines: in some instances, that rheum is pretty equally dispersed throughout the habit, and gives rise to wandering rheumatic pains, so as to occasion the fever to be more or less rheumatic. But if slow scorbutic, or nervous, and rheumatic, and inflammatory fevers prevailed betwixt the vernal equinox and the summer solstice, the bilious, and other malignant fevers in the end of July, and in August and September, will be in a great measure rheumatic, and in many instances in some measure nervous and erysipelatous; and the diseases resulting from a combination of these predispositions

positions in July, August, and September, will often be exceeding obstinate and dangerous; especially if the occasional exciting cause is greatly productive of indisposition, or consists chiefly of the effluvia of patients under the malignant disease; or if the antecedent morbidic dispositions of the body are augmented by one or more of the forementioned auxiliary, local, or accidental causes (15.), or by the occupations of some individuals; or by living meanly on coarse and dense, or unsound, or unwholesome foods, or breathing a close impure air, in a crowded unhealthful town; or by being almost famished, or having the spirits sunk by fear, anxiety, or despair. Under such of these circumstances as are most pernicious to health, a most malignant epidemic fever, or plague, may arise without the aid of any imported foreign infection: but such a fever will admit of being propagated by the effluvia of the sick, so as to become epidemical, in such places only whose inhabitants are in a great measure predisposed thereto by similar circumstances.

17. WHEN such a malignant fever is epidemical and very fatal in a populous town, the atmosphere of that town will become so much vitiated by the effluvia of the sick and unburied dead, and other putrid and excrementitious exhalations, as to amount to an adequate or proximate cause of the jail distemper; at least in a long course of close calm weather. And if the town stands on low ground, or within the influence of the vapours of marshes, and is much crouded, and dirty, and ill served with water; these circumstances will very much add to the universality and malignity of the disease. Such an impure atmosphere will infect some strangers who remain but a short time within its influence, like the volatile variolous miasm. Nevertheless, these strangers, after getting infected and retiring home, if they live in salubrious villages, will not propagate the disease in these places, unless the inhabitants of such places are predisposed in a great degree to a malignant fever by a general morbid constitution of the atmosphere, from the then present and antecedent weathers, or from some occult cause
in

in the air, especially if joined by one or more of the forementioned auxiliary causes (15.); tho' they may, without the concurrence of these causes, infect some persons who live under the same roofs with them, provided such persons lie within the influence of the effluvia of the sick, or are very often near them, and are susceptible of the disease; but that morbidic exhalation will rarely in any wise affect persons who transiently visit the patients, and live not within its influence, nor are naturally of a delicate frame of body, with an acute sense of smelling. For the recent perspired matter of patients under such a malignant fever requires a much longer time for infecting predisposed persons, than either the foul air which first gives rise to the jail distemper, or the effluvia of patients under the small pox, or other disease that is truly infectious. Besides, the small pox, measles, and such like diseases, do often seem to be propagated purely by the influence of their peculiar miasmata in the purest and most salubrious air, without scarce any regard to the weather, or the seasons, or the diet, or manner of life of individuals; even
when

when such truly infectious diseases are mild, without any putrid or nauseous smell. These particulars might be vouched by several facts, which must have occurred to every experienced physician, and therefore are not necessary to be mentioned here ; especially as they would make a long digression from the principal subject of this chapter.

18. Tho' infectious eruptive diseases may be propagated by infection in every season, and in all sorts of weather, and are sometimes epidemical in the summer and winter seasons ; yet the bodily disposition to such diseases commonly takes place in a less degree in a temperate and salubrious summer, and in a frosty winter, than in the intermediate seasons : wherefore they are in general less apt to become epidemical in the two former seasons than in the latter. The natural disposition to such diseases is therefore often increased in some measure by particular sorts and changes of the weather, so as to render persons in general who are naturally predisposed, more readily susceptible of these diseases, under such a constitution of the air ; and on the contrary :

trary: and frequently the increase and diminution of the natural, or constitutional disposition to diseases that are truly infectious would seem to depend on some occult or unknown cause in the air. It is shewn in the sequel that the depurative and effluent faculties are generally increased in the spring and autumn, upon which the increase of the disposition to eruptive diseases in these seasons, doth, I suppose, chiefly depend. Upon the same principles the human body is in general rendered more subject to diseases in these seasons, than in the intermediate ones; the juices being then more susceptible of a depurative fermentation, or fever, by which nature endeavours to expel peccant humours, and resolve obstructions, and purify the animal juices: while in the intermediate seasons, particularly in a frosty winter, the concoctive faculty is increased, as is shewn in the sequel, whereby the body is in a great measure prepared for those crises it often undergoes, in a greater or less degree, in the spring and autumn. Thus then, as the divine Hippocrates has well said, "The whole man from his birth is a disease."

C H A P. III.

Of the Period included betwixt the first of August and the autumnal Equinox.

19. **T**HE autumnal diseases for the most part depend chiefly on the weather that prevails betwixt the first or middle of July, and the middle or end of August. If the weather in July and August is in general pretty warm, and uniform, and somewhat rainy, or showery, with southerly and westerly winds, and there is little difference betwixt the temperatures of the air in the days and nights; tender persons, at least, will sweat profusely, particularly at nights, in bed, so as to debilitate the habit and impoverish the juices, and render the body more susceptible of diseases from the first considerable change of the weather, or the influence of any other nonnatural or occasional morbid cause: but few diseases will happen in these two months, while the abovesaid weather continues; except among labouring people who work hard in the fields,

and get often wet. This occasional cause, which is compounded of vehement bodily labour and the influences of the sun and rain, and of the cool damps in the evenings and mornings; sometimes with the addition of other abuses, such as drinking a large draught of cold water, or sitting down, or sleeping on the ground, when much heated by hard work; this outward cause, I say, in the circumstances here supposed, will be most apt to excite bilious, catarrhal, and dysenteric fevers, and the cholera morbus. But these diseases will not often terminate in intermittents, at least in salubrious places, by reason of the uniform temperature of the air in the days and nights, and throughout the abovesaid months; neither will they be very vehement and dangerous, or frequent, in good air, even among peasants; partly by reason of the said uniformity of the weather, and partly because the solar heat is moderated in a great measure by frequent showers; provided the air is not often close and calm, but is frequently changed, and rendered pretty serene and pure by fresh breezes. Intermittents, in this case, will scarce ap-

pear till towards the end of September, when a somewhat cold temperature of the air begins to reign, and the quotidian vicissitudes are increased by night frosts, and the long absence of the sun during the nights; and those resulting chiefly from this seasonable change of the weather are generally pretty regular; and they will not be frequent, except in places lying within the influence of the effluvia of low aguey ground, unless an uncommon disposition to intermittents prevailed in the latter part of the preceding spring, or that the weather in August, and the forepart of September, was very dry and sultry.

20. IF the subsequent autumnal weather, after the middle or end of August, is cold and dry, inflammatory diseases with a fizy blood will be rife; but if it be cold and moist, rheumatic and catarrhal fevers, fluxes, and dry gripes, and internal scorbutic, rheumatic, and inflammatory affections will prevail: but intermittents will not be rife in either case, if the state of the weather in July and August is such as is abovementioned (19.); or if the weather
in

first of August and the autumnal Equinox. 37
in these months is in general somewhat rainy or showery, and unusually cold for the season.

21. BUT if the weather in July and the forepart of August, or throughout this last month, is exceeding dry and sultry, and most of the nights in the end of July, and in August, are somewhat cool from northerly and easterly breezes (which usually attend a long course of such weather, at least on the eastern coast) so as to occasion a considerable difference betwixt the temperatures of the air in the days and nights; in that case the bilious disposition will prevail, and vehement remitting and intermitting fevers, mostly of the bilious kind, will be rife in the end of July and in August; chiefly among peasants who work hard in the solar heat, and are exposed, after being much heated by hard labour, to the cool and moist evening air. For these quotidian vicissitudes, with drougthy weather, consequent on a long course of dry and sultry uniform weather in the end of June and in July, or in July only, in concurrence with unwholesome vapours from

38 *Of the Period included betwixt the*
low ground and marshes, and an increase
of the putrifying disposition of the atmo-
sphere, are the principal predisposing and
exciting causes of continued or remitting
tertians and quartans, and of the above-
said bilious disposition which accompanies
these diseases *: and from these causes,
chiefly, a new morbid constitution usually
commences about the beginning of Au-
gust;

* The sudden transition from a cool night air to the
sultry heat in the day-time, hath an effect somewhat
similar to that which results from the transition from a
cold northern atmosphere to the torrid zone: while the
contrary change from a scorching sun to the cool, and
sometimes chill, night air, contracts the pores, and in-
creases the resistance at the surface of the body, and by
consequence diminishes perspiration (at least in such as
have previously acquired a morbid tendency, with a
viscid state of the fine juices) and determines inwards,
towards the organs concerned in the preparation of the
bile, the retained acrid matter of perspiration, and a
great proportion of the thin rarefied blood, together
with a great share of the liquified and reassumed animal
fat, which hath acquired a rancid tendency by the sul-
try heat, especially in persons who work hard in the
open air. Hence chilliness, or cold shivering, which
commonly makes its first onset early in a morning, in con-
sequence of the said effects of the coolness of the nights,
and is succeeded by a fever generally of the remitting
kind, which is often in a great measure bilious from the
aforesaid causes, which very much increase the secretion
of the bile, and occasion a great depravity of that juice,
so as sometimes to render it highly noxious.

gust; or an antecedent one, which hath left some impression in the human body, is revived, or increased, or in some measure varied, in that month.

22. THESE continued or spurious tertians and quartans (21.) commonly assume the forms of regular intermittents towards the end of September, or as soon as a cold temperature of the air begins to prevail; especially if the quotidian vicissitudes are then increased, as often happens from night frosts, and the long absence of the sun at nights: wherefore about that time several persons will be seized with intermittents; which will become exceeding rife or epidemical, at least in places influenced by the vapours from low aguey ground or marshes; and quartans will be extraordinary frequent: but they will be most incident to peasants who are exposed to the injuries of the weather. For the blood is in a great measure vitiated and impoverished, and the solids are relaxed, by a long course of dry and sultry weather in July, August, and September, particularly in such as are vehemently exercised in the solar heat, so

40 *Of the Period included betwixt the*

as to create a disposition to quartan intermittents; which therefore are readily excited by a cold temperature of the air, and the quotidian vicissitudes that take place in the end of September and beginning of October; even when the weather is then serene and dry, and to appearance quite salutary (40.). Extraordinary dry and warm weather in September also predisposes to quartan intermittents, tho' the weather may have been temperate in the two preceding months. Hence the quartan intermittents which were rife among labouring people in October, November, and December 1760; which were often double, and in some patients were attended by great anxiety, and a proneness to faint in the cold fit; yet they were not very obstinate; for they generally yielded to one moderate bleeding, an emetic, an ounce of bark, and spirit of sal ammoniac. The intermittents that make their first onset in the end of September, or in October, after a somewhat cold temperature of the air begins to prevail, are much less apt to begin in a continued or remitting bilious form, and are therefore less dangerous than those

those that make their onset in August: yet they will be mostly obstinate after a long course of very dry and sultry weather, for the reasons mentioned in the sequel (45.). Dangerous remittents, and continued or spurious tertians, are generally very rife in places in the West Indies lying within the influence of the vapours of marshes; but intermittents rarely become epidemical in places uninfluenced by the effluvia of marshes, in Jamaica, till towards the end of October or beginning of November, after the commencing of the chill anniversary North winds, with a dry and clear state of the atmosphere; for the evenings and mornings are rendered somewhat chill by these winds, while the days are exceeding sultry, so as to occasion a considerable difference in the temperatures of the air in the days and nights: and the intermittents excited by that cause, in salubrious places, are generally pretty regular, and seldom very obstinate or fatal. In Hudson's Bay, the quotidian vicissitudes of the weather are very great in the month of August; but as the temperature of the nocturnal air then often amounts to an intense

tense frost, bilious and putrid fevers, and intermittents, are thereby prevented: and these diseases are less apt to be excited in that cold northern climate, because the earth is always frozen to a considerable depth, which prevents the exhalation of unwholesome vapours.

23. THO' the nature or genius of the autumnal fever in general is determined chiefly by the antecedent and attendant weather, yet it often varies in some measure both as to its genius and type in different persons residing in the same place, and living nearly in the same manner, as all fevers that owe their principal predisposing cause to the weather usually do; doubtless from the diversity of habits of body, and constitutions, or temperaments, and the different qualities, and degrees of occasional or accidental predisposing and exciting causes; and frequently, and more immediately from different tendencies of a great share of the morbidic humour. The autumnal fevers, however, are generally more apt to remit, and at the long run to intermit, than the fevers that happen in June and July, or those that make their onset

onset in a frosty winter, chiefly, I suppose, by reason of the quotidian vicissitudes which often take place, in a considerable degree, in August and September. The exacerbations and paroxysms of those fevers are often exceeding ardent, with burning heat, and a rapid pulse; perhaps chiefly because the blood during their reign, that is, betwixt the middle of July and the autumnal equinox, is commonly thin, very fluid, and of a bright red, as it is generally in the most ardent fevers; and is little cooled in the pulmonary vesicles, and at the surface of the body, by the external air in sultry weather. The autumnal fevers are generally most ardent, and most exquisite, and true, in youths and young adults, who in general have the thinnest and most fluid blood, and the greatest degree of native heat; and they are most rife, bilious, obstinate, and fatal, in low aguey places, or in such as lie within the influence of the vapours of marshes, or of ground that has lain a long time under water, or of deep mud and ooze on a low shore, or at the mouths of rivers. The marshes whose water is brackish, and that
are

44 *Of the Period included betwixt the*

are seldom wholly washed by the sea, are the most unhealthful; because brackish water becomes soon putrid, or so changed as to emit a very nauseous smell: and the effluvia of low moist ground, with wet ditches, or of marshes, are most putrid and noxious in droughty and sultry weather, and therefore generally so in the month of August and the forepart of September. It is remarkable that in the end of July, and in August, and the fore part of September, when the weather is most apt to create, or predispose to the most dangerous and obstinate diseases, butcher's meat most readily putrefies, and bread becomes soonest mouldy, even when the weather in that period is droughty.

24. THE effere, and pustular or miliary eruptions, both with and without a fever, are generally most rife in the end of July, and in August; and some children are then invaded by the prickly heat; especially if the weather is extraordinary dry and sultry. These eruptions are induced chiefly in consequence of a considerable expansion and relaxation of the fibres of the skin by the
sultry

fultry heat; by which the diameters of the cutaneous capillaries are enlarged, and the resistance at the surface of the body is diminished, which necessarily increases the tendency of morbid humours thereto; together with an over-proportion of sound juices, which also contribute to form the said eruptions; particularly the prickly heat, which is most incident to the natives of cold or temperate climates, on being transported from their native air to the torrid zone. Hence chiefly it is that the disposition to all eruptive diseases is generally increased in this period of the medical year. This disposition of the body is in a great measure checked on the accession of cold weather in the close of this period, or beginning of the subsequent, in consequence of which the said morbid humours are determined inwards, together with an over-proportion of sound juices, and chiefly to the alimentary tube; whence vomiting, fluxes, the dry gripes, the iliac passion, hypochondriac, and hysterical affections; and some other internal bilious, inflammatory, rheumatic, scorbutic, and catarrhal diseases. Towards the middle
or

or end of October, if the weather in general, in this month, is dry, clear, and somewhat cold and uniform, as it is frequently, the human body being then in some measure inured to the cold air, and corroborated thereby, the effluent faculty is again increased, but by a very different cause from that of the former increase of it; viz. by an increase of the strength and vigor of the body, by which the subaction and coction of morbid humours, and their separation from the sound juices, are necessarily promoted; and the several animal functions are well performed. Hence the cutaneous eruptions, and critical gouty, and rheumatic affections, which often invade persons of pretty strong constitutions, in October and November; which in general are of the scorbutic kind, and more truly critical than the aforesaid pustular eruptions induced chiefly by a relaxation of the cutaneous fibres.

25. THE true malignant cholera morbus seldom appears in Great Britain, at least in the northern parts of the island. I have not met with above four cases of it in the
course

first of August and the autumnal Equinox. 47

course of seven years practice : yet several cases of an unmalignant cholera morbus have fallen under my observation ; particularly in August 1759, when bilious and ardent fevers were extraordinary rife. These last soon terminated spontaneously in health ; and were properly critical, and preventive of dangerous bilious fevers, and of intermittents ; wherefore the bilious evacuations in such cases ought not to be too speedily restrained by opiates, and astringents, as the most judicious Sydenham well observes ; otherwise extreme anxiety at the præcordia, and a most dangerous fever, with bilious and nervous symptoms, will be apt to ensue.

26. THE dysentery, which is commonly most frequent in the close of this period, or in the fore part of the following, seldom appears, and is very rarely rife or epidemical, in salubrious villages in Great Britain ; at least in the northern parts of the island, among such as live on sound and wholesome foods, and have good water. Tho' this disease was rife and fatal in
Stockton,

48 *Of the Period included betwixt the*
Stockton, in August and September 1758 *,
yet very few cases of that disease appeared
at the same time in the duchy of Cleveland,
to the eastward of Stockton. The incon-
stancy and particular changes of the wea-
ther specified in the sequel (97 to 100.), con-
stituted the common outward predisposing
cause of that dysentery, which, in Stock-
ton, was most probably excited and pro-
moted partly by the effluvia which were
carried to that town from the marshy and
oozy ground by the banks of the river
Taeſe, by the frequent breezes from be-
tween the North and South-east points, in
the months of June, July, August, and
September that year. In that period I met
only with two cases of the dysentery, which
were not very obstinate, and with a few
cases of the tenesmus and dry gripes. A
malignant dysentery, indeed, after it be-
gins in a populous town, under a consti-
tution of one, two, or three seasons that

* The dysentery was very rife, at the same time, in
Newcastle, Aukland, Thriſk, and some other towns, in
which it was excited and promoted either by particu-
lar local, or accidental auxiliary causes, or by infec-
tion, or by a concurrence of these causes.

creates a great disposition thereto, is very apt to become rife or epidemical; because the fetid effluvia of the dejections are a more powerful auxiliary exciting cause, than the effluvia that proceed from patients under any other disease that is not truly infectious, like the small-pox: wherefore the dysentery, when malignant, may, under a constitution that is extremely favourable to the disease, be almost as readily imported to, and propagated in, a populous town, as the small-pox or measles; especially if its common outward predisposing causes are reinforced by one or more of the aforesaid (15, 16.) local, and accidental auxiliary causes: for the effluvia of dysenteric patients, and their dejections, under these circumstances, will as surely infect such predisposed persons as remain a sufficient time within their influence, as the effluvia of patients under the small-pox or measles; the first only requiring a longer time than the miasmata of the two last mentioned diseases for exciting the disease: for diseases that are truly infectious do at once infect such as come within the influence of their volatile miasmata, without

the aid of any acquired predisposition ; but such persons only as are predisposed by the reigning morbid constitution, or by particular local or accidental causes, and live within the influence of the effluvia of the sick, or are often, and for some time, near them, are infected by the dysentery, or other malignant fever that is not truly infectious ; unless they have a delicate frame of body, and an acute sense of smelling * ; or are under a spontaneous tendency to the disease,

* The lues venerea, and the itch are, perhaps, the only diseases, that occur in this island, that can properly be said to infect by contact. If the skin is lightly touched with a small portion of recent variolous pus, that will rarely excite the small-pox, unless the part is previously scratched, or that the effluvia of the pus invade the olphactory nerves. The small-pox, and such fevers as are in a great measure infectious with regard to predisposed persons, are generally excited by the effluvia of the sick, which most probably first chiefly affect the olphactory nerves ; and by which more or less of an antipathy is often excited which is not a little conducive towards bringing on the disease, of which some remarkable instances have fallen under my observation : neither is it altogether improbable but that the said effluvia do sometimes influence the body in a particular manner by sympathy, so as to contribute towards bringing on a similar distemper, at least with regard to persons who are thereto in a great measure predisposed, either naturally, or by its common primary causes. Some reasoning instances might be advanced that would
I seem

first of August and the autumnal Equinox. 51

disease, from the influence of its common predisposing and exciting causes. Hence chiefly it is that physicians seldom contract the dysentery, or any fever that is infectious in the like manner, by transiently visiting the patients under such diseases, provided they live not within the influence of the effluvia of the sick. Malignant fevers, and fluxes, 'tis probable, were more apt to become epidemical, and very fatal in populous towns formerly, when the houses in general were constructed of wood, than now; because the joints of the partitions, at least in the houses of the poor, would generally suffer the effluvia of the sick to pass to the adjoining houses.

27. THE dysentery is commonly most rife in Great Britain in September and Oc-

tober, seem to add to the probability of this hypothesis. 'Tis however obvious that the natural sentiments and passions, such as pity, or compassion, grief, joy, or mirth, fear, rage, &c. are very apt, at least in some particular circumstances, to be communicated by sympathy; and also that the vital functions are in a great measure influenced by the passions. 'Tis well known that the fear of a malignant epidemic disease, doth not only increase the predisposition to that disease, but also very much adds to its obstinacy and danger after making its onset.

tober, or about the autumnal equinox, when the weather, at such times, happens to be extraordinary cold and moist, after hot and dry, or moist and warm weather, in July and August; or when it is cold and dry, or very changeable, after a moist and warm summer; or somewhat moist, or close and warm, after a hot and dry summer. It often begins in July, and sometimes it makes its first onset in April or May, but rarely becomes epidemical till September; and sometimes it commences in the close of autumn, and becomes not epidemical till spring, or till after the winter solstice. The same external causes that create the dysentery do also give rise to some nervous, rheumatic, and inflammatory colics, and to malignant fevers, both slow and acute; which fevers are generally combined with the dysentery, which has nearly the same relation, in its different stages, to its attendant fever, as the small-pox has to its peculiar eruptive, and inflammatory, and purulent or secondary fevers; only that the dysentery is not so truly critical as the variolous eruption; its morbidic humour being determined inwards upon the alimentary

tary

tary tube, where it creates a vehement disease by its irritation, which oppresses and debilitates the vital powers, so as to impede, in some measure, a due coction of that peccant humour, and a speedy separation of it from the sound juices, a great share of which is discharged with the peccant humour of the disease. The fever from those causes, when unattended by an alvine flux, will generally be in a great measure bilious, or rheumatic, or nervous, or catarrhal, or inflammatory, or be supervened by miliary eruptions, or by petechiæ, or large outward phlegmons, or boils; or it will be compounded of two or more of these sorts of fevers.

28. If northerly and easterly winds prevail throughout the summer, and also in the month of August, the constitution of this month will be nearly similar to that which usually takes place in June; and more or less of an inflammatory disposition will prevail therein. In the end of July, and in August, however, the blood in general is thinner, or less viscid, and a true inflammatory diathesis is less frequent, than

54 *Of the Period included betwixt the*

at any other time in the year. Yet I met with one case of an exceeding obstinate pleurisy, in the beginning of August 1758; which required a frequent repetition of venesection, altho' the weather, both then, and in the latter part of July, was moist and warm; and dangerous slow fevers with a lax and florid state of the blood, and with flat miliary pustules, and red petechiæ, were prevalent. But the dense and viscid state of the blood in this case was probably induced by the dry weather, with northerly and easterly breezes, in May and June, and the extraordinary cold and moist weather in the beginning of July, joined with a plethoric state of the habit: for this patient, having been subject to pleurisies, usually was let blood every spring at least, which he had this year omitted; and in plethoric habits, that have some degree of an inflammatory disposition, inflammatory diseases are apt to be induced by warm, and somewhat moist weather, when it succeeds a long course of cold and dry, or cold and moist weather; in consequence of the great rarefaction of the dense viscid blood, whereby the vessels being overcharged, obstructions

structions are formed, and that particular sort of fermentation is excited that gives rise to vehement inflammatory fevers with a sizziness of blood ; which necessarily is increased by the concomitant inflammation. Hence chiefly it is that pleurifies, and pleuroperipneumonies are often rise, even in pretty warm weather in May and June, and the forepart of July.

29. THE solids of consumptive persons are greatly relaxed, their blood is overheated and much vitiated, the subcutaneous fat is liquified, and the lungs are parched, by the sultry heat in July and August; the inflammatory effervescences which take place under the hectic exacerbations are aggravated by the abovementioned cause (28.); and every change of the weather, from a sultry to a cold state of it, is most pernicious to such patients in these months, as before observed (14.). Hence an aggravation of ulcers and glandular tubercles in the lungs ; a production of new tubercles, with inflammatory or suppurative fevers ; profuse purulent, and pituitous expectoration, and hectic sweats ; hæmoptoe, pro-

56 *Of the Period included betwixt the*

fuse hæmorrhages from the lungs; oedematous swelling of the legs; dyspnæa, or stoppage in the breast, at least on brisk motion; and dangerous diarrhæas of the colliquative kind. These bad effects are increased by the cold air which usually prevails in the close of autumn, especially if attended either with moisture, or with dry piercing North-east winds; which diminish perspiration, and determine the humours more abundantly to the greatly relaxed and debilitated internal parts; and to all these causes is chiefly owing the fatality of pulmonary consumptions at the close of autumn, or fall of the leaf. Consumptive persons, however, that are not very much wore out, are sometimes a little strengthened in the close of autumn, if the weather is then temperate, rather dry, and pretty uniform; so as to hold out till next spring; and those who get over the spring with great difficulty are generally carried off in August, or before the autumnal equinox.

30. Tho' the weather in July, and in this period included betwixt the first of
August

August and the autumnal equinox, is most apt to excite, or predispose to, dangerous acute diseases, yet as it is seldom very sultry in Great Britain, such dangerous diseases are very rarely rife or epidemical among the inhabitants of salubrious places in this island; those distempers excepted that are propagated by infection; such as small-pox, measles, whooping-cough, the epidemical throat distemper. Intermittents, indeed, are sometimes very rife, even in salubrious places, after an extraordinary hot and dry summer; but they are rarely fatal, or of any bad consequence in good air, but on the contrary, are conducive towards purging the habit of the scorbutic and rheumatic humours which are most incident to the inhabitants of this island, and are the chief source of most of the diseases to which they are subject: and those who have once undergone an intermittent of long continuance, have rarely, for the future, a long attack of the same disease. When an acute disease is rife and fatal in some particular towns, chiefly from local, or accidental auxiliary causes, and partly from the effluvia of the sick, it commonly

monly makes a transient appearance, and attacks a few persons only in salubrious towns and villages, in which it is excited chiefly by the influence of one or more of the nonnaturals. But when such a disease is excited in one person of a family, it is apt to invade the other individuals of that family, who are predisposed thereto by its common outward causes depending on the concomitant and antecedent weathers; for the effluvia which proceed from the party first attacked constitutes in this case the exciting cause: yet the disease, in such salubrious places, will rarely be propagated among the neighbouring families; because the effluvia of patients under diseases that are not truly infectious are only sufficient to excite the same disease in predisposed persons who live under one roof with such patients, within the influence of the said effluvia, or are very often with them; unless such predisposed persons have, as before observed, a very acute sense of smelling, and a delicate frame of body, or are otherwise very much predisposed to the disease.

31. A MOIST and warm winter, and spring, with some great changes of the weather, and a moist close and warm summer, give rise to the putrid or petechial diathesis; and produce the most obstinate and dangerous fevers; which will generally be most fatal in July, August, and September. But the fevers from such a constitution are generally milder, and less epidemical in Great Britain, than in the more southern countries of the continent, because moist summers are commonly pretty temperate in this island. If very moist weather prevails in autumn, and the forepart of the winter, and if intense frosts take place after the winter solstice, and continue till late in the spring, and are succeeded by an extraordinary hot and dry summer; the most dangerous fevers will be apt to prevail in July, August, and September, at least in places where these common outward causes are reinforced by particular local, or accidental auxiliary causes. These fevers will be bilious, nervous, or scorbutic, and in some measure inflammatory, or erysipelatous. But these malignant diseases will rarely be rife, or
very

60 *Of the Period included betwixt the, &c.*

very fatal in salubrious towns or villages in Great Britain; at least in small villages, where they are less apt to be promoted, or aggravated by the effluvia of the sick, or imported, than in populous towns. But when the weather in July, August, and September is temperate, and pretty uniform, and rather somewhat showery than drougthy, very few diseases appear in salubrious places in Great Britain in this period of the medical year; exclusive of such as are truly infectious, and are propagated by the effluvia of the sick, such as the small-pox, measles, hooping-cough; and such places are commonly visited by these diseases at intervals of five, or six, or more years.

CHAP.

C H A P. IV.

Of the Period included betwixt the autumnal Equinox and the winter Solstice.

32. **I**N this period a cold and moist temperature of the air for the most part prevails ; sometimes, and chiefly in October, the weather in general is dry, clear, and temperate, or somewhat cold ; and sometimes it is somewhat close, and rather warm, or temperate, with southerly winds.

33. ON the commencing of cold weather after the autumnal equinox, the perspiration of persons in general is in some measure diminished, in consequence of the sudden increase of the coldness of the external air ; and its comparative diminution in each person is in proportion to the previous laxity and debility of the body, other circumstances being alike. If the cold air is attended with very moist or close weather, that will very much add to the diminution of perspiration, in consequence

quence of the diminution of the general exhaling power of the atmosphere: and as the interior parts of the body are still somewhat lax and weak, by the influence of the preceding hot weather, and the circulation is languid in proportion, particularly in the ventral and hepatic branches of the vena portæ *, the discharges by the other emunctories are not generally increased in proportion to the diminution of perspiration on the accession of cold weather in the forepart of this period. Hence more or less of a true plethora, with a retention of a great share of recrementitious humours is necessarily induced. This would seem to justify the custom of bleeding adults in this period, tho' under no manifest disease; but 'tis obvious from the nature of this plethora, which is occasioned chiefly by a retention of some share of the matter of perspiration, and by an inert

* By the abovesaid cause the bile is rendered both viscid and scanty, which very much contributes to diminish all the natural secretions, and excretions, and predispose the habit to the land-scurvy, cachexies, and dropsies. For the bile, when in a salutary state, is highly conducive towards promoting those vital functions, and increasing the vigour of the body.

or viscid state of the bile, that it will in general be most effectually remedied by suitable cathartics; and by antiscorbutic simples, which increase the strength and elasticity of the fibres, and accelerate the circulation; and promote the coction of morbid humours, and the resolution of obstructions; and increase the diaphoresis, and all the other secretions: exercise also very much conduces to the same end. In some instances, however, it will be imprudent to dispense with bleeding, particularly with regard to adults who have a natural inflammatory or rheumatic disposition, and have accustomed themselves to this evacuation annually at the close of autumn, or both at spring and fall; and are under the age of fifty-five.

34. Tho' a cold temperature of the air, consequent on a warm state of it, always lessens perspiration, in some measure, especially if attended by moisture, or by brisk north-east winds; since it contracts the pores of the skin, and condenses the juices, and determines a greater proportion of these from the surface to the more interior parts

64 *Of the Period included betwixt the*

parts of the body ; yet if in the first and greatest part of this period the coldness of the weather is moderate, and nearly uniform in the days and nights, and the air is dry and pretty serene, with gentle westerly breezes, and is agreeably warm when the sun is in, or not remote from the meridian ; such a state of the weather, I say, at this time, which is not uncommon, will be exceeding salutary ; since it will render perspiration sufficiently copious, and will gradually corroborate the whole body, and correct in a great measure any injury or morbus tendency it may have acquired in the course of the antecedent hot weather ; at least with regard to those who are properly clothed ; and are not much exposed to the injuries of the weather. Hence it is that in such weather, in this period, tender and delicate persons who are much indisposed, or enervated by the hot temperature of the summer, generally acquire a tolerable good state of health, and good spirits ; and their sleeps are sounder and longer, than in the two preceding periods ; provided they have no consumptive tendency, nor are otherwise cachectic ; and that there reigns

reigns not an epidemic disease from the constitution of one or more of the preceding periods; and persons of good constitutions are now in general vigorous and strong. The air, both in the forepart of this period, and in winter, is more salubrious, because it is less replete with the effluvia of vegetables, than at other times in the year; and the bad effects of moisture is counteracted in a great measure by the condensing, strengthening, and antiseptic qualities of external cold.

35. THE morbid humours contracted in the two preceding periods by the scorching solar heat, and the great changes in the weather which usually happen in summer, and those acquired from a diminution of perspiration in the beginning of this period, are now in a great measure concocted, in consequence of an increase of the strength of the body by external cold; and are consequently, in good constitutions, separated from the sound juices, and expelled by the natural emunctories, or thrown upon the skin, or to the lower extremities. Hence the scorbutic eruptions, and critical

F

gouty,

66 *Of the Period included betwixt the*

gouty, and rheumatic affections which are usually frequent in this period.

36. Tho' these critical diseases may be induced by an increase of the concoctive and effluent faculties, from external cold; at least in pretty dry, clear, and uniform weather; yet 'tis probable that a particular species of fermentation of the blood and serum, induced chiefly by the autumnal plethora, generally contributes in a great measure towards concocting the said morbid humours, and separating them from the sound juices, and expelling them from the more interior and noble parts of the body, to the skin or the lowest extremities, or by the emunctories; for such scorbutic eruptions, and recessions of gouty and rheumatic humours, are generally preceded by more or less of a feverish indisposition, or by some sickness, or oppression at the præcordia. But when the morbid humour cannot be easily separated, and expelled, either from its intimate union with the sound juices; or by its being copious or virulent, or lodged chiefly in the nerves and fine lymphatics; or by reason
of

of a too great debility of the powers of the body; or the supervention of unsalutary weather, which also adds to the morbid state of the habit; or from the accession of other auxiliary causes; an obstinate, and often dangerous disease insues, whose species is determined by the particular external and internal causes which give it origin. Cutaneous scorbutic eruptions, however, and other critical diseases, are usually less frequent in this period, than in the spring; because the effluent faculty is now in some measure checked by the increase of external cold, at least in persons who are naturally tender, or debilitated by age; and because retained excrementitious or scorbutic humours are in a greater measure concocted in the close of a frosty winter, than in this period. From what is said here and in the sequel (45.) the reason is obvious why autumnal intermittents are generally longer, and more obstinate and dangerous than the vernal; the morbidic humour being more remote from concoction, and the powers of the body weaker, under the autumnal, than under the vernal intermittents; wherefore the former often

continue, or don't finally terminate till the spring is well advanced, or till the vernal intermittents have mostly disappeared. Some persons subject to rheumatic, or hypochondriac affections, from a copious scorbutic humour, who, during the hot weather, are greatly relieved by a copious perspiration, and sometimes by cutaneous eruptions, become rheumatic, or hypondriacal, on the accession of cold weather in October; in consequence of a diminution of perspiration, and a repulsion of the cutaneous eruptions, by the sudden increase of external cold. For persons only of good constitutions have critical scorbutic eruptions in the close of autumn; unless they are induced partly by infection.

37. IF a cold state of the air is attended with much moisture, from rainy, showery, hazy, or close weather, as it is often in the greatest part of this period, the salutary effects of the condensing and strengthening power of the external cold will be in a great measure counteracted by the relaxing effect, and other injuries of its attendant moisture; at least with regard to persons

sons of lax and gross, or puny and tender habits; and to such as have acquired a morbid tendency from the constitutions of the two preceding periods, or by their particular diet, and manner of life; or otherwise. The gravity of the air being also diminished under a moist state of it, the power of respiration on the blood, relative to sanguification, and the comminution and assimilation of crude and viscid juices, will be diminished in proportion. Therefore such a cold and moist temperature of the air in this period consequent on a long course of hot and dry, or moist and warm weather, produceth the following primary effects in the human body, or at least in such habits as are predisposed by the abovesaid remote causes. 1. A retention of some portion of noxious recrementitious humours, from an impaired perspiration; whence more or less of a depravity of the circulating juices, and an autumnal plethora. 2. A laxity and debility of the fibres, both from the preceding cause, and the abovesaid predisposing causes. 3. A determination of an over-proportion of juices to the internal parts, chiefly from

70 *Of the Period included betwixt the*

a diminution of perspiration, and the constringing effect of external cold. 4. These more immediate causes, in concurrence with the effects of the aforesaid remote ones, give rise to a vitiated state of the bile, and of the gastric, and intestinal juices, with a proportional depravity of the digestive and assimilating faculties: and all these remote and immediate causes, together, do necessarily occasion a crudity, visciduity, and acrimony of the animal juices; a languid circulation, and a diminution and depravity of the secretions, and a great variety of ills which thence result. Consequently the diathesis or dispositions of the personal habit, which prevail under a cold and moist state of the air, and changeable weather, in this period, are the scorbutic, rheumatic, and catarrhal.

38. THE diseases that usually spring from these remote and immediate causes (37.), in this period, are the following; namely, obstinate intermittents which often assume the form or genius of a quartan; scorbutic, or hypocondriac little fevers of long duration; vapours, melancholy, and madness;

Autumnal Equinox and the Winter Solstice. 71

ness ; rheumatic, and erysipelatous fevers ; slow and acute putrid fevers ; mild, and malignant catarrhal fevers, squincies, fluxions compounded of an oedema and erysipelas ; and some from a scrophulous humour ; alvine fluxes, worms, rheumatic, and nervous colics, inflammation of the ilium, rheums, and vehement coughs ; a catarrh, or an asthma, from a redundancy of sharp serous humour, or viscid phlegm ; an aggravation of pulmonary consumptions, which often prove fatal in this period ; the true habitual or influent land-scurvy ; hypochondriac and hysteric affections ; the jaundice, rheumatic, and arthritic pains, both vague and fixed, and often vague ; some cases of an hæmiphlegia, or of partial palsies, which are generally more obstinate than those that happen in the spring ; cachexies, and dropies, which are most frequent in this period and in the spring, after an extraordinary hot and dry summer ; an aggravation, and often a relapse of scorbutic or ill conditioned ulcers in the legs. Some persons above the age of thirty-five, or forty, who have an habitual rheumatic cough, or are troubled with much viscid

phlegm from the lungs, or the head, or from both, chiefly in consequence of a scanty perspiration, generally suffer a considerable increase of these disorders on the accession of cold and moist, and changeable weather in this period. In the forepart of this period, or in the close of the foregoing, we sometimes meet with a few cases of vomiting of pure blood, which is sometimes also voided by stool, and of an immoderate flux of the menses; especially if a constitution prevails that creates a great diathesis to the dysentery. The blood in this hæmorrhage is usually somewhat dense, but unfizy *.

39. THO'

* This hæmorrhage is apparently occasioned partly by a determination of an over-proportion of blood internally, and partly by a scorbutic, or rheumatic humour, which nature endeavours to expel by means of the fermentation induced by the autumnal plethora; which by rarefying the blood, is the chief immediate cause of the hæmorrhage; or that effervescence and consequent rarefaction of the blood is excited by the efforts which the powers of the body exert towards expelling that morbidic humour. Women are sometimes seized with a vomiting of blood, from the stomach, in consequence of the plethora, and the acrid recrementitious humours retained in the habit, from a suppression of the menses: and sometimes a profuse hæmorrhage from the nose or fauces, supervenes the eruptive fever of the small-pox, when nature strives in vain to expel the morbidic humour, and promote the variolous eruption: this hæ-

39. THO' the blood becomes somewhat dense and viscid, or inflammatory, or has the tenuity it acquired, chiefly in the preceding

hæmorrhage, indeed, is sometimes forced chiefly by vehement vomiting, which often attends it, from some degree of an inflammation of the stomach, or a great oppression at the præcordia, from the retention of the variolous humour. But the oozing of blood from the gums, and the dense or black bloody urine, which in some instances, attend a retention of the measles, or the black measles resembling petechiæ; and which in one case that fell under my observation supervened the eruptive fever of the small-pox, result most probably from a particular dyscrasy of the blood and serum that will not easily admit of the separation of the morbidic humour from the sound juices; wherefore the efforts which nature exerts towards separating and expelling that humour only promote these bleedings. But when the particular fermentation which gives rise to this dyscrasy is checked by one moderate bleeding, and the most cooling and gently corroborative diluents, together with the vomiting, if this is an attendant symptom, these bleedings cease, and the variolous eruption strikes out, and proceeds regularly; as it happened in the abovesaid instance; and the patient, a young man, aged about nineteen, subject to epileptic fits which recurred at long intervals, recovered. But were this bleeding occasioned by a putrid dissolution of the blood, no salutary crisis could possibly happen; and the whole body would soon be reduced to a putrid mass. A real putrid fermentation of the mass of blood, or that species which is most readily productive of a tendency of the blood to putrefaction, is always, I'm inclined to believe, attended by an apoplexy that is speedily fatal, of which I could mention some remarkable instances. The blood

ceding period, in some measure diminished, on the accession of a cold and moist temperature of the air, or of very cold and dry weather with brisk north-east winds, in this period; yet it is now, in general, still thinner, and less inflammatory than it is usually in the spring; wherefore inflammatory diseases with a fizy blood are

blood, in the bleedings which attend the retention of the measles, with some livid and purple spots, is exceeding lax and florid, with little or no serum; the blood and serum being inseparably blended together by the aforesaid dyscrasy; whence probably results the difficult separation of the morbidic humour from the sound juices. I have met with a few patients in whom the late epidemical miliary eruption, with an ardent fever, and an attendant, or consequent sore throat, was prevented by the abovesaid dyscrasy; particularly in two lads, aged betwixt twelve and fifteen years. In one of these there was an oozing of blood from the gums, with great weakness, internal heat, and pain in the joints; but his complexion, which was florid, was little faded. The other had some large livid spots on the skin, his urine was tinged with blood, he was feeble, pale, inappetent, with some oppression at the præcordia, and resembled one highly scorbutic; his gums were of a pale colour, and sound: they had scarce any manifest fever; and the dyscrasy in these cases was not attended by any great or immediate danger, as in that which prevents the variolous and morbillous eruptions. The first patient was cured by one moderate bleeding, and spirit of vitriol taken in cold spring water; and the other by a decoction of temperate antiscorbutic simples well acidulated with lemon juice; tho' the miliary eruption never appeared in either.

commonly less frequent in this period, than in the two subsequent ones; and persons in general are now for the same reason, less chilly from a cold temperature of the air, than in the period included betwixt the vernal equinox and the summer solstice: For chilliness, or a great sensibility of cold, results most commonly from a dense or somewhat sily state of the blood, which necessarily occasions a languid circulation, at least in the minute capillaries at the surface of the body, and a consequent lentor, with some depravity of the animal spirits, on which the native animal heat, I suppose, chiefly depends. Chilliness is sometimes also caused by a very poor and thin state of the blood. The chilliness which attends hectic patients, in general, in the diurnal intervals of the paroxysms, results from an high degree of the first cause; and that peculiar to some hypochondriacal persons results chiefly from the last: It is sometimes, however, in the last mentioned affection, occasioned chiefly by a rheumatic, or gouty, humour, or by a particular dyscrasy induced by that humour; and sometimes it is partial, and only takes place
in

76 *Of the Period included betwixt the*

in particular parts where that morbidic humour is chiefly lodged. But the poor fizy blood peculiar to some vague chronic rheumatisms is most productive of chilliness, and a great sensibility of cold: this blood appears of a dilute vermillion hue, and thin, as it flows from a vein, and after coagulating becomes whitish or starch-like at top. In the two preceding periods the fibres of the more exterior parts of the body are very much expanded and relaxed, and a great proportion of juices are determined thereto, which very much increases the native heat at the surface of the body. Now this state of the habit, with a tendency of a great proportion of juices outwards, generally continues, in some measure, during the first and greatest part of this period, and is very much conducive towards preventing a great sensibility of cold; but in spring the contrary of all this takes place.

40. If intense frosts prevail in January, February, and March, and the weather in April and May is cold, and somewhat moist, and the months of June, July, and August

Autumnal Equinox and the Winter Solstice. 77

August are very dry and sultry, intermittents will be rife in April and May, and very much so, or epidemical, in September, October, and November, notwithstanding the weather in these three months, or at least in the two first of these, should be very temperate, and in general dry and clear, and to appearance most salutary; as happened in 1757. Hence it appears that the intermittents, at least, which make their onset in this period, do chiefly depend on the temperatures and changes of the weather, in the course of one or more antecedent periods of the year; and that the common exciting cause of the above-said intermittents, which prevailed in the close of the autumn in 1757, must have consisted in a somewhat cold temperature of the air, consequent on a very dry and sultry course of weather in July and August, in concurrence with an increase of the inequality of the temperatures of the air in the days and nights in the forepart of this period, included betwixt the autumnal equinox and the winter solstice, and in the close of the foregoing.

78 *Of the Period included betwixt the*

41. THE intermittents which appear after the autumnal equinox, when the coldness of the air is increased, and the solids and fluids are pretty much condensed, begin for the most part at once, in a pretty regular form, without personating a continued, or remitting fever, at their first onset (as they often do in the preceding period, after a dry and sultry summer); especially if intermittents are not then epidemical; for when they are so, they often begin, even in this period, in the shape of remittents, or continued, or spurious tertians, and quartans; or they are combined with a slow fever which renders their intermissions imperfect.

42. IN this period, simple and double tertians sometimes degenerate into quartans, and these into the former: whence it appears that the autumnal tertians often partake of the nature of a quartan; or that these intermittents have nearly the same relation to each other which simple and double tertians have in the spring.

43. IF

43. IF the weather in October, and November, is mostly clear and dry, with frequent gentle frosts, as it is often in these months, the tertian and quartan intermittents which began in the two preceding months either cease spontaneously before the end of November, or become quite regular so as to admit of being subdued by the bark, or at least of being suppressed a considerable time thereby, in persons whom they have not rendered cachectic, or dropsical : and if intense frosts prevail in the three following months, many intermittents will finally cease, which otherwise would have recurred early in the spring ; and the intermittents whose fomes, tho' suppressed, is not wholly extinguished, neither by the bark, nor by the immediate effects of the freezing cold, will lie dormant, and return not till the breaking up of the frosts in the ensuing spring. For the strength and vigour of the body are greatly increased by a long course of frosty weather, in winter ; which necessarily corrects in a great measure the injuries incurred by the human body from a hot temperature of the air, and changeable weather, in summer, and
autumn ;

autumn; and besides very much enables the powers of the body to concoct and attenuate morbid humours, and resolve such as are impacted in the fine vessels, so as to fit them for separation from the sound juices, and for expulsion by the natural emunctories. Intermittents are also more easily suppressed, and more apt to cease spontaneously, in a frosty winter, because the quotidian vicissitudes, one of their principal exciting causes, are then inconsiderable; the temperatures of the air in the days and nights being nearly uniform; and also because the vapours of marshes, wet ditches, and low unhealthy ground, the most powerful cause of intermittents, are confined under the frozen surfaces of such places. The sudden increase of the heat of the external air, after an intense and long continued frost in spring, rarifies the blood, and increases the velocity of the circulation, and relaxes in some measure the habit, upon which the fomes which had lain dormant during the severe frosts is rendered active, so as to give rise to the old intermittent; which it is more apt to do, because great vicissitudes from a warm, or temperate

temperate air to a cold state of it, and *vice versa*, are frequent in the spring. I have observed that this great change in the habit of body, on the accession of warm weather, immediately after breaking up of a long continued frost in the spring, (particularly in the Low Countries, where intense frosts of long continuance in spring, are often at once succeeded by pretty warm weather) gives rise to a fermentation, or overflowing of the bile, in most of those who then have a return of an autumnal intermittent; which probably is the chief immediate cause of the revival of that obstinate disease in the spring. The abovesaid vapours, which abundantly exhale after the breaking up of a long course of frosty weather in spring, are doubtless a principal cause of the revival of these intermittents, as well as of the original of vernal agues.

44. BUT if the winter is somewhat cold and moist, or unseasonably temperate, and dry, with some great changes or transitions of the weather, and with very little frost, the most obstinate cases of the au-

tumnal intermittents, for the most part can only be suppressed for a short time by the bark; especially if they are epidemical, or contracted in a low aguey country. Such as are suppressed in the close of autumn, or beginning of November, will, in this case, appear at farthest, soon after the winter solstice, together with some of the vernal intermittents, as in the winters of 1757, and 1759.

45. AUTUMNAL intermittents, and continued, or spurious tertians, and quartans, are apt to induce, in particular habits, after a very sultry and dry summer, more or less of a cachexy and dropfy; because the body is previously much relaxed, the animal oil is attenuated with a tendency to rancidity, and the blood rarefied, impoverished, and in some measure vitiated, by the antecedent hot weather; and far more so by the ardent bilious fevers which these intermittents often personate at their first onset: the circulation chiefly in the mesenteric and hepatic branches of the vena portæ, is languid; whence obstructions in the liver, a paucity, and an inert state

state of the bile ; crudity and viscosity of the fine juices ; a diminution and depravity of all or most of the secretions ; and consequent cachexies and dropfies.

46. A QUARTAN intermittent is peculiar to the autumn, and very rarely is contracted in any other season. When a quartan makes its first onset in the spring, it will be found to be the same in genius with the vernal tertian, in which it will generally terminate. The ingenious Dr. Langrish observed that the blood is less dense and tenacious in quartans, than in simple tertians, and in tertians than in quotidians. But this rule admits of very many exceptions. I have met with several cases of a quartan, which may properly be termed catarrhal, in which the blood was either very dense, or more or less fizy at top of the coagulum. These were attended by a cough, and some pain, or stoppage in the breast, and a dyspnæa after brisk motion ; and these symptoms, when the intermittent is regular, with fair intermissions, are suppressed, together with the intermittent, from time to time, by the bark.

84 *Of the Period included betwixt the*

This intermittent, when combined with a slow fever of the hectic kind, which renders its intermissions imperfect, and the bark ineffectual, commonly induces a pulmonary consumption, with a dense fizy blood, in persons naturally predisposed thereto. Most of the consumptions that took their rise in the autumn, or before the winter solstice, that have fallen under my observation, were induced by the catarrhal quartan. In the most ardent simple, and double tertians that make their onset betwixt the middle of July and the autumnal equinox, the blood is generally lax or not very dense, and often florid, and rarely dense or fizy, unless the intermittent is complicated with more or less of a peripneumony, or other partial inflammation; and so likewise it is in the ardent continued and remitting fevers which these intermittents often personate at their first insult. The blood is commonly lax and florid in intermittents attended with vomiting of much green bile, whether these happen in spring, summer, or autumn: and in hot climates the blood is generally lax and florid, or seldom very dense, in the most ardent

dent true, and spurious simple, and double tertians. But in spring, in northern climates, the blood is often dense, and sometimes a little fizy, both in simple and double tertians; especially when inflammatory diseases with a fizy blood are frequent. Yet even in simple vernal tertians, attended by great anxiety at the præcordia, with a proneness to faint in the cold fit; which in this case is imperfect, or spurious, and of long duration, (of which two cases fell under my observation in April 1757) the blood is florid, and exceeding lax, with little serum. Towards the close of the autumn, I have always drawn seven or eight ounces of blood from young stout men under a quartan, and given an emetic, and sometimes a purge or two in a moderate dose, and frequently attenuants, previous to the exhibition of the bark, with remarkable good success: and in these cases, the blood was often dense, and sometimes a little fizy, or had some fizy spots on its surface. Yet after quartans have continued a long time, and are not attended by catarrhal, or hectic symptoms, the blood is generally poor and thin; espe-

cially if there is a dropfical difpofition, or an oedematous fwelling of the legs. The furface of the coagulum, in autumnal agues is frequently covered with a thin fizy film of a bluiſh colour, and the coagulum in that caſe is commonly of a lax conſiſtency. But in the catarrhal quartan, with hectic ſymptoms, in young adults, the fizy cruſt is whitish, tough, and pretty thick, and the coagulum is of a denſe conſiſtency.

47. A QUARTAN ague is a rare occurrence in the moſt northern parts of Great Britain, and I never met with a true quartan intermittent in the torrid zone: wherefore it ſhould ſeem to be generated by pretty fultry weather, chiefly in July, and Auguſt, or in September, conſequent on a freezing cold in the winter or ſpring, in concurrence with the great change from ſuch fultry weather, to a ſomewhat cold temperature of the air towards the end of September or beginning of October. In the moſt northern parts of Great Britain the ſummer heat in general is perhaps below the degree that is neceſſary for producing that diſeaſe; and in the torrid zone there

Autumnal Equinox and the Winter Solstice. 87

there is no freezing cold in the winter ; and the solar heat in summer and autumn, is very intense, so as to create a great degree of the bilious disposition ; and ardent continued, and remitting fevers, which have a tendency to quotidian, and tertian intermittents.

48. IF mild southerly winds prevail in October, November, and December, as they sometimes do, and are at times supplanted by cold northerly, or easterly winds, with pretty keen frost, the catarrhal disposition will be exceeding prevalent, and will be combined with the rheumatic, and in several instances with some degree of the inflammatory ; as in 1758.

49. IF the weather in the forepart of this period is unusually warm, and somewhat moist, or close, with southerly winds ; and after continuing so for several days, is supplanted by cold, close, and moist weather, or by a brisk north-east wind with intense frost, which soon gives place to a warm and moist state of the weather with southerly winds, colds, and profuse rheums, and catarrhal fevers both mild and malig-

nant, will at once become rife or epidemical. The colds that happen in this period are usually of the most simple rheumatic kind; from a recent rheum, with unfizy blood, and generally less inflammatory, and less vehement, and of shorter duration, than those that arise in the spring; and very rarely, in any instance, degenerate into a pulmonary consumption, as the vernal colds, and catarrhal fevers sometimes do in particular habits; yet they are more apt to become epidemical from the abovesaid causes (48, 49.), than the vernal; because the body is relaxed by the antecedent hot weather, and is not yet sufficiently seasoned to the rigour of the winter.

50. IN October children and youths are sometimes invaded with a fever, with vomiting, which is often bilious, and is sometimes supervened by a diarrhæa, which terminates the disease. This is commonly attributed to the eating of much fruit; but it results chiefly from the autumnal plethora, in concurrence with a diminution of perspiration, and a determination of an over-proportion of juices, and of the retained

tained matter of perspiration, internally, and chiefly to the abdominal viscera, from a cold and moist temperature of the air, consequent on a sultry state of the weather in the preceding period. In adults this disease sometimes begins with vomiting; and the breath, in this case, is sometimes strong, with a bad taste in the mouth, and very fetid stools; which results not from a real putrid state of the mass of blood, but from a putrid tendency of the mucus of the mouth, lungs, and alimentary tube, in consequence of a vitiated secretion, and an imperfect assimilation of the recent chyle: which, as it is acescent, or contains a great proportion of a latent acid, is readily susceptible, in an unassimilated state, in the human body, of a speedy progress to putrefaction. Hence chiefly it is that the flesh of beeves or sheep, that are slaughtered immediately on taking them off their pastures, becomes tainted much sooner than the flesh of such as are previously kept in the house for thirty or forty hours without food or drink, by which the recent chyle becomes quite assimilated: for the fine concoctive and assimilating
juices,

90 *Of the Period included betwixt the*
juices, of which the fluid of the nerves is doubtless the chief, have a wonderful antiseptic power, by which they prevent ingested aliments from growing putrid in the stomach, and resist the putrid tendency of the chyle in the mass of blood, and preserve the body from putrefaction under long abstinence, and ardent fevers *. The aforesaid fever (50.) doth often induce in children, even after a few days continuance, a dropfical swelling of the abdomen, or some degree of a tympany, or both, with borborymi, from the causes specified in the foregoing (45.); to which the intumescence of the abdomen in children is much oftener owing, than to worms. Indeed these vermin are rather an effect of that disease; which is generally attended with an inert or depraved state, and a paucity of the bile, or by obstructions in the spleen, or liver, or mesenteric glands, and a consequent depravity of the digestive and assimilating faculties; which necessarily occasion a redundancy of mucus in the alimentary tube, and a great diathesis to worms as well as to the above-said leucophlegmatic disease.

* Bisset on the sea scurvy. Chap. II.

C H A P. V.

Of the Period included betwixt the Winter Solstice and the Vernal Equinox.

51. **I**F keen frost, with pretty clear weather prevails in this period, as it often does, the condensing and corroborative power of the freezing cold will correct in a great measure the aforementioned bad effects induced both by the solar heat during the warm months, and by the cold and moist temperature of the air, and the changeable weather that usually take place in the period included betwixt the autumnal equinox and the winter solstice. The exhaling power of the air, in clear frosty weather, is considerable, and perspiration is more copious, not only upon that account, but likewise for the following reasons.

1. Persons being now pretty well inured to cold, and the temperature of the air being nearly uniform in the days and nights, the pores are not so much contracted thereby, as it is by the same degree of freezing cold in the close of autumn, or beginning of November;

92 *Of the Period included betwixt the*

November; provided such keen frost in this period is not preceded by a long course of unseasonable warm or temperate weather. 2. The native heat in the more interior parts of the body is increased, partly from a determination of a great proportion of juices internally, but chiefly from an increase of the strength and elasticity of the fibres, and of the density of the globules of red blood; whereby the exhalation of perspirable matter, at least from the internal surface of the lungs, is necessarily increased. 3. The red globules being condensed, and by consequence rendered smaller, rounder, and specifically heavier, the mass of blood becomes thinner, or more fluid and less viscid; and, as the strength and elasticity of the fibres are at the same time increased, the circulation becomes more brisk and uniform; the secretions are consequently increased, and all the animal functions are well performed.

52. DURING an intense frost, with clear weather and gentle breezes in this period, if it succeeds not a moist and rather warm temperature of the air, of long continuance,

ance, so as to be in some measure hurtful by the sudden transition from an opposite extreme, individuals in general are strong, healthy, and alert, with a keen appetite, and florid complexions; the secretion of urine is increased in proportion to the diminution of the cutaneous discharges; and persons of puny habits, and lax fibres, who were much enervated by the summer heat, and rendered unhealthy by a cold and moist temperature of the air, or by changeable weather, in the close of autumn, have now a better state of health than at any other time of the year; provided they are not subject to an asthma, nor almost worn out by age, or infirmities: and any portion of morbid, recrementitious humours that may have been retained and accumulated in the habit, in the course of the two preceding periods, is now concocted, and attenuated, in a great measure, in most habits, in consequence of an increase of the vigour of the powers of the body, so as to be rendered perspirable, or susceptible of separation, from the sound juices, and of expulsion by some of the emunctories; or being thrown upon
the

94 *Of the Period included betwixt the*
the skin in the form of a scorbutic eruption, or of inflammatory tumours ; or towards the lower extremities in the form of an ischiatica, or gout, or erysipelatous inflammation ; on the commencing of warm or temperate weather in spring ; when that coction, and these crises are farther promoted by more or less of a fermentation of the blood and serum excited partly by the vernal plethora from rarefaction, and partly by the stimulus of long retained recrementitious humours. But when the powers of the body are rendered inadequate to the ready expulsion of the morbidic humour, by one or more of the circumstances specified in the foregoing (36.), a disease commences, which varies as to its genus, or species, obstinacy, and danger, according to the nature, and degree of the external and internal causes which give it origin. But as retained recrementitious humours are now in general in a greater measure concocted, or less remote from a state of concoction, than in the close of autumn (36.), the particular diseases which are thereby chiefly excited, in spring, are generally less obstinate than those that spring
chiefly

chiefly from the like morbidic humour in autumn. Yet as an inflammatory diathesis is more prevalent in the spring, from a dense and viscid state of the blood; inflammatory diseases with a fizy blood are not only more frequent, but also in general more obstinate in this season, than in autumn. In the sequel we exhibit a general view of the principal diseases arising in the forepart of the spring, chiefly from the great changes and most prevalent temperatures of the weather, and the vicissitudes of the seasons; and which in general, do more immediately spring, chiefly from the abovesaid retained recrementitious humours; and as the coction of such humours is now more advanced, cutaneous eruptions, and other critical diseases which thence result, are far more rife, in this period; and the subsequent, than in the autumn.

53. IF a severe frost, with brisk north-east winds, succeeds either a dry, or moist, and somewhat warm temperature of the air, with southerly winds of long continuance, coughs, catarrhal fevers, and some

96 *Of the Period included betwixt the*
cases of inflammatory diseases, with a sily
blood, such as pleurifies, spurious peri-
pneumonies, squincies, inflammatory rheu-
matisms, will at once become rife. For
such a transition in the forepart of the
spring, or latter part of this period, is pro-
ductive of a greater degree of the inflam-
matory disposition, than in the close of
autumn. The coughs and catarrhal fe-
vers that now are induced are generally
more inflammatory, vehement, and of long-
er continuance, than such as happen in the
close of autumn; and in persons who have
a natural consumptive disposition, they are
apt to degenerate into a pulmonary con-
sumption. Sometimes several cases of slow
fevers appear in the course of a long con-
tinued series of frosty weather in this pe-
riod; especially if such fevers were rife in
the months of October, November, and the
forepart of December; and they are usually
attended with more or less of cough, or
have a catarrhal tendency, or are more or
less rheumatic.

54. Tho' the blood is generally thinner,
or more fluid, and less viscid in a frosty
winter,

winter, than at any time in the year, except the month of August; yet in the close of winter, or in the forepart of the spring, as the solids are rigid, and the red globules are dense and heavy, the blood and serum are very susceptible of an inflammatory fitness, and the body of inflammatory diseases; not only from the last mentioned change of the weather (54.), but sometimes also from a transition from an intense frost of long continuance to unseasonably warm and moist, or dry weather; chiefly in consequence of a considerable expansion of the condensed blood and serum, or a plethora from rarefaction; upon which these vital juices become less dense, or specifically lighter, but more viscid, and less fluid than they were in their former state during the frosty weather (28.): and from these causes, in concurrence with the stimulus excited by retained recrementitious humours, an inflammatory fever, or effervescence, is produced, which, together with the partial inflammation occasioned by the impaction of some portion of the viscid blood and serum, in some internal part where they are most apt to stagnate, do

H

greatly

greatly increase the rarefaction and inflammatory siveness of these vital juices. Hence the reason why the cure of such highly inflammatory diseases depends chiefly on repeated bleeding, which takes off the plethora from rarefaction, and consequently abates the velocity of the circulation, and the febril heat, and prevents a suppuration of the inflamed portion.

55. THE diseases that arise in this period do often depend in a great measure on the temperatures of the preceding summer and autumn, and sometimes in some measure too on that of the preceding spring. If the months of March and April are cold and moist, and productive of the scurvy, the summer and autumn extraordinary rainy, and November and December cold and moist, an acrid scorbutic humour is amassed in the human body, chiefly from a laxity of the fibres, and an impaired perspiration; which, in concurrence with a viscid state of the fine juices, constitutes an high scorbutic disposition; which, in the ensuing spring, if the weather is still in general moist, or open, with little frost, as in

1756, will be more predominant than in the preceding spring or autumn, and will contribute in a great measure to give rise to the following diseases, which appeared in spring that year. 1. Slow fevers, both nervous and rheumatic, attended by various symptoms of different degrees of danger, chiefly according to the situation, nature, and functions of the parts to which the scorbutic or rheumatic humour is in a great measure determined. 2. Some cases of catarrhal fevers, and of dangerous flow, and acute fevers, with some miliary pustules, and of intermittents. 3. Some cases of spurious peripneumonies, chiefly in men above a middle age; likewise of spurious and true pleurifies; and of erysipelatous swellings, both oedematous and scorbutic; and of inflammatory rheumatisms, and the iliac passion. 4. The land scurvy, which gradually increases, and becomes most frequent in April and May; together with some cases of cachexies; hypochondriac, and hysteric affections, and madness. 5. Many cases of the gout, sciatica, and wandering scorbutic rheumatisms. 6. Several cases of palsies, which most commonly ap-

pear in the form of an hemiplegia, and are generally most rife in this period, and most incident to women. 7. Many instances of scrophulous affections, mostly in youths under puberty; which, if they fall upon the lungs, give rise to a fatal glandular consumption. 8. Some cases of the rickets, which is nearly akin to the scrophula: and both these diseases most commonly make their onset in this period, included betwixt the winter solstice and the vernal equinox; and are then more frequent if the king-cough or small-pox was epidemical in the preceding autumn. 9. Old scorbutic ulcers in the legs are exasperated, and the scars of such as had been healed in the course of the preceding summer or winter, are most apt to break out into obstinate and painful ulcers. Children are sometimes more affected by worms in this period, than at any other time in the year, particularly under the aforesaid constitution, with a prevalence of the scorbutic disposition (56.); and also when a hot and dry summer and autumn are succeeded by a mild winter, with changeable weather, and little frost; chiefly from an
inert

inert state of the bile, and a consequent redundancy of slime or viscid mucus, in the alimentary tube, which attend a scorbutic diathesis.

56. THO' the general morbid disposition is commonly acquired by the particular temperatures and changes of the weather in one or more antecedent periods of the year, and sometimes spontaneously induces the diseases to which it hath a natural tendency, even in a subsequent course of weather that is apparently most salutary (40.); yet these diseases are often excited, and chiefly formed by their concomitant weather, or by the effect of one or more of the nonnaturals, or by the effluvia of patients under the reigning disease, or by particular local, or accidental auxiliary causes, upon which, and the particular personal habit and constitution of each patient together, their aspects, or the most predominant symptoms, in many instances, almost wholly depend; which chiefly determine the method of cure. But their obstinacy and danger are generally more or less increased by the morbid disposition

derived from the antecedent weather, to which it is often necessary to have some regard in the curative procedure.

57. IF a predominant scorbutic disposition, in this period, from the forementioned causes (56.), is supervened by cold north-east winds, with keen frost, and snow, and the frost is succeeded by weather that is mostly open, with cold piercing winds (for brisk winds, from almost any point of the compass, are chill and piercing in the spring, while much snow lies on high grounds); if so, I say, the prevailing diseases will be rendered in a great measure inflammatory, with more or less of a siveness of the blood; and will appear in the forms of pleurifies, spurious peripneumonies, squincies, catarrhal fevers, and vehement coughs with some siveness of the blood, which are apt in particular habits to induce a pulmonary consumption, inflammatory rheumatisms, inflammatory swellings of one or both legs, compounded of an erysipelas, and oedema, or scurvy. But these inflammatory diseases, being generally combined with a slow fever, of the
nervous,

nervous, or scorbutic kind, from the antecedent scorbutic diathesis, will seldom bear very copious bleeding; or, at least, to have very much blood drawn off in a short time; their attendant inflammations will, in some instances, be of the erysipelatous kind, or compounded of an erysipelas and scurvy; and their obstinacy and danger will in general be greatly increased by the general scorbutic predisposition: and in some persons who have an habitual or natural disposition to the land-scurvy, or scorbutic rheumatism, or have an old ulcer in the leg lately dried up, or have an intire suppression, or a scanty discharge of the menses, or other customary discharge; in such, I say, these pleurifies and peripneumonies, will often assume a malignant form, with a fizy, but lax, and very depraved state of the blood; and the danger is sometimes in no wise diminished, but rather increased on the resolution of the partial inflammation; from a dangerous metastasis of the morbidic humour, which, in this case, is often of the scorbutic erysipelatous sort; and sometimes these inflammatory diseases, in such habits, under this constitution, terminate in acute

104 *Of the Period included betwixt the*
putrid fevers, or in malignant flow fevers,
or in a cachexis, or an obstinate scorbutic
or hypochondriac febricule. In such mor-
bous habits, under the said constitution,
catarrhal and other fevers too will gene-
rally be more or less malignant; and be
supervened in many instances by miliary
pustules, or phlyctænæ, and in some cases
by red or livid petechiæ. This state of the
weather (58.), especially in February and
March, is very injurious, and often fatal
to old people who are almost worn out by
age, or are more or less cachectic; and also
very much aggravates the pulmonary con-
sumptions, and gives rise to many cases of
this disease.

58. But if the frequent rains in the pre-
ceding autumn (56.) have rendered corn
unsound, this auxiliary cause will increase
the scorbutic disposition in this period, oc-
casion a greater tendency to malignant fe-
vers under the aforesaid constitution (56,
58.), which fevers, in some places subject
to other accidental, or local exciting and
aggravating causes, may be, in many cases,
attended by red or livid petechiæ. Such
dan-

dangerous fevers, beginning in this period, will gradually increase in frequency and virulence till towards the middle or end of May, when the scorbutic disposition is generally most prevalent; after which they will begin to decline, and in the course of the summer, if temperate, they will almost wholly disappear; some remains, however, of this disposition in the human body, will contribute to increase the obstinacy and danger of the diseases that prevail in the succeeding autumn; especially if the months of July and August are very dry and sultry, or moist, close, and warm. But such malignant fevers will only appear, or be rife, in particular places where the general predisposing and exciting causes happen to be reinforced by one or more auxiliary causes.

59. IF intense frosts prevail in the months of December, January, February, and March; and intermittents are the reigning disease in April and May, chiefly from a cold and moist temperature of the air in these two months, consequent on the antecedent intense frosts; some remains of
the

106 *Of the Period included betwixt the*
the disposition to these intermittents, if June and July are uncommonly sultry, will, in concurrence with the bilious disposition, give rise to continued and remitting bilious fevers, and continued tertians and quartans, in the end of July, and in August; and intermittents will be more rife in September and October, than they were in the latter part of the preceding spring, and still more so in the forepart of the ensuing spring, than in the preceding autumn; provided the intermediate winter is rather moist, and somewhat cold, with little frost; and in this case the vernal intermittents will begin to appear soon after the winter solstice; as in 1758.

60. DURING the reign of the epidemical intermittents in the forepart of the spring in 1758, there also appeared the following diseases, resulting chiefly from scorbutic, rheumatic, and erysipelatous humours. 1. Anomalous intermittents, consisting of two, three, or four slight irregular paroxysms each day, joined with more or less of a constant flow fever, which rendered their intermissions imperfect. 2. Shivering fits, resem-

resembling paralytic tremors, amounting, in some patients, to eight or nine each day. These were generally irregular both as to their duration, and intervals: sometimes no sensible chilliness attended them, and in that case very little, or no manifest feverish heat succeeded; but the patient, for the most part, was somewhat chilly at the onset of the shivering fit, and a little flushed or warm after it*. 3. Several cases of an hemiplegia, which was more frequent

* This disease was most incident to women above forty-seven; in whom it was also attended by flatus, and sometimes by other hysteric, and hypochondriac symptoms; and generally with some degree of a slow fever or febricula, which for the most part was only discoverable by a little driness, or whiteness of the tongue; the pulse in the intervals of the shivering fits, being usually in a natural state, or rather below the natural standard. After the disease began to decline, the intervals of the fits became gradually longer, and the duration shorter, till they quite ceased. I also met with a few cases of this disease in the spring, in 1756, and 1757. A young woman has been attacked with it each spring in these last five years. She had one fit only each day, but it continued about two hours, and tho' it began by a slight shivering, yet the tremor gradually increased so as to amount, in the height of the fit, to a violent agitation of the whole body. This disease annually yielded to bathing in the sea, and to no other remedy. In a young woman, in Skelton, this disease, which attacked her

quent than has been known for many years. It generally invaded women above the age of fifty, and began with a remitting fever, which in some time either gradually went off, or terminated in a pretty regular

her in the beginning of last spring, was attended by a moveable rheumatic humour, and with spasms of the muscles. The morbid humour would sometimes fly in an instant from an arm to a leg, and from one arm or leg to the other; and the limb attacked was seized either with trembling, or rigid spasms, or vehement pains: when it retired to the abdominal viscera, or præcordia, it produced flatus, and other hysteric symptoms, or great anxiety at the præcordia; and when it seized upon the head it occasioned madness. This case eluded the powers of many remedies, and began not to recede till after the summer solstice. A woman aged fifty-seven, who lived in Kirkleatham, had the above-mentioned slight periodical tremors from February 1757 till March 1758, when they ceased on the breaking out of a scorbutic erysipelas: but they returned in August following, and induced a cachexy and dropsy, of which she died in November the same year. In some persons, however, this disease was subdued or ceased spontaneously in a few days: and it seldom exceeded two months. It should seem to have an affinity with a palsy, an intermittent, and the hysteric or hypochondriac affection; or to be constituted by a combination of some degree of the proximate cause of each of these diseases. Such cases of it as were attended by some degree of a fever, with unusual thirst, were most successfully treated by one moderate bleeding; gentle carminative laxatives, antihysterics combined with temperate attenuants and diaphoretics; vesicatories, antiscorbutic aperients, and corroborants.

When

regular intermittent ; upon which the palsy was much abated ; and in April and May it receded, in a great measure, in most patients, leaving behind it only a weakness of the affected limbs, most commonly with a little numbness of the hand and foot. In these palsies the native heat in the affected parts was little or nothing impaired ; and when the attendant fever assumed the form of a pretty regular intermittent, the crisis of the palsy was more speedy and perfect. 4. A few cases of a paraplegia, with a fever as the former ; and of apo-

When there was little or no sensible febricula the like remedies were also proper, with the addition of volatile alkaline spirits, and acrid antiscorbutics. A gentle emetic or two were sometimes also administered with good success. Tho' one moderate bleeding was very serviceable, even to ancient persons, under this disease, yet the taking away of a great deal was detrimental. A taylor, aged about thirty, acquired it by having near a pound of blood drawn from the arm in the beginning of a feverish indisposition, in February 1758, when that periodical disease was rife. But he was soon cured, chiefly by a cordial mixture impregnated with a pretty large proportion of the tincture of the bark, and with some spirit of sal ammoniac. I gave the bark, in a large proportion, in some cases of this disease, without success ; yet it was serviceable in small doses, as a corroborative and antiscorbutic, in the intervals of purging, especially when combined with powder of wild valerian roots.

plexies,

plexies. 5. Some cases of the dry belly-ach, and a few of the iliac passion. 6. Slow fevers of long duration, which in their decrease often personated an intermittent; and in some instances they were catarrhal, that is attended by a cough, with some pain or stoppage in the breast; and in some instances rheumatic. 7. Some cases of the spurious peripneumony; and some erysipelatous fevers mostly in women above forty-five. These last were super-vened by a considerable erysipelatous oedematous swelling of one leg and thigh; which being critical, and nearly a'kin to the gout, proved not fatal even to women above fifty of puny constitutions. This fever is often exceeding ardent, with a whitish tongue, and the blood is dense and sometimes a little fizy. 8. Some persons were invaded with the nervous or hypochondriac febricula, which was of long duration, and seldom began to recede till the summer was well advanced. 9. The gout and rheumatism were also frequent, as is usual in this period. Some cases of the scrophula, and of rickets also appeared; and a few cases of consumptions from slow
remit-

remitting catarrhal fevers. 11. Erysipelatous, herpetic, and other scorbutic eruptions were extraordinary rife, whose morbid humours, as before observed, were the chief immediate cause of all those diseases (61.).

61. THE flow fevers which happen in this period are often attended by a dense state of the blood; and sometimes it is a little fizy, especially when some catarrhal, or peripneumonic symptoms attend the disease; and in some instances the blood is somewhat fizy, when such a state of it is scarce indicated by any of the symptoms, and when there seems to be no indication for venesection; tho' the cure, in such cases, depends in a great measure on drawing off some blood: in some cases too, in which the blood is rather lax, or not very dense, at the onset of the fever, it becomes dense, or somewhat fizy towards the height of the disease, when the taking away of about five or six ounces of blood is very conducive towards accelerating a salutary crisis, and rendering it more perfect; or causing the disease to form into an intermittent; after which it soon ceases, or readily

dily yields to the bark. Slow fevers with a fizy blood are very dangerous, if bleeding, according to the strength of the patient and the genius of the disease, is neglected; but they are generally far less dangerous, under proper management, than such as are attended by a lax and florid state of the blood.

62. THE vernal diseases are commonly supposed to result, in a great measure, from the copious exhalations that arise after a long course of frosty weather, which, during the frosts, were confined under the frozen surfaces of the earth, and of stagnating water. But this opinion coincides not with observation; for when the winter is mild with very little frost, the vernal diseases are generally more rife than otherwise; and in that case they commonly begin soon after the winter solstice. A series of frosty weather in December, January, and February, only prevents or suppresses those diseases, and postpones their appearance till towards the vernal equinox. Indeed, their not appearing, or being unfrequent, during the frosty weather, may

may be chiefly, or in a great measure, owing to the confinement of unwholesome vapours under the frozen surfaces of marshes, and low unhealthful ground.

63. A MILD winter with frequent rain, is far more healthful, than with an extraordinary dry state of the weather; because noxious exhalations are precipitated, and the stagnating water and mud, in marshes, wet ditches, and ponds are sweetened by great falls of rain; and the relaxing effect of moisture is, in that season, counteracted by the condensing, and corroborative effects of external cold. But in a long course of very drougthy weather, when the stagnating water in the abovesaid places is almost dried up, their muddy bottoms become putrid or contain very noxious matter, which is abundantly exhaled, so as to render the air in a great measure unhealthful, and very apt to create a general disposition in the human body to epidemic diseases; which, in the winter and spring, during such drougthy weather, are most apt to be excited by an unseasonable prevalent mild state of
I the

114 *Of the Period included betwixt the*
the air, with southerly winds, being now
and then supplanted by very cold frosty
weather, with north-east winds of short
duration; as in the late winter and spring,
in 1759 and 60. A mild winter with dry
weather, is still more productive of indis-
position, if preceded by a drouthy au-
tumn; and in this case the vernal diseases,
particularly intermittents, begin to appear
soon after the winter solstice; and the
spring, if in general dry, with some great
transitions in the temperature of the air,
will in that case be very sickly. But a very
rainy autumn is not a little unsalutary,
especially if the winds in the course of it are
mostly southerly; not only because the re-
laxing and septic qualities of the air are
considerable under such a state of the wea-
ther in that season, but also because corn
is thereby rendered unsound; such autum-
nal weather, as before observed, creates a
general scorbutic disposition of the body, so
as to occasion the land-scurvy, and the dis-
eases depending chiefly thereon, to be ex-
ceeding rife in the close of autumn, and
forepart of winter; and in the following
spring,

spring, provided the winter and spring are in general somewhat moist, with changeable weather and little frost. A frosty winter and spring with frequent snow are more salutary than when little or no snow attends such a long series of frosty weather; for the reasons already mentioned.

C H A P. VI.

*Of the Period included betwixt the Vernal
Equinox and the Summer Solstice.*

64. **T**HE weather in spring, and chiefly in this period, is often inconstant, by frequent transitions from pretty keen frost, or from a cold sharp air, to somewhat warm, or temperate weather, and *vice versa*. But the weather in March, April, and May in general, is usually cold; chiefly because northerly and easterly winds are commonly most prevalent in these months; wherefore if much snow falls in the preceding period, or beginning of the present, it now generally lies a long time on the northern and eastern sides of high ground; which very much adds to the piercing coldness of brisk winds in this period: the coldness of the air in the said months doth often also result from snow clouds, chiefly before the falling of much snow or fleet.

THO'

THO' the sharp coldness of brisk winds in these months, from lying or suspended snow, seldom amounts to, or much exceeds, the freezing point, at least in the day time while the sun is high in the horizon, yet it affects the human body more sensibly than a far intenser degree of cold in clear frosty weather, with calms, or very gentle breezes; chiefly from the causes specified in the foregoing (39.); and partly, because the fibres are somewhat relaxed, and the pores enlarged by some intermediate warm days; and also because these cold piercing winds, from snow in this period, are generally attended with moisture, since their real coldness is commonly rather below the freezing point, which increases the laxity, and porosity of the body.

65: IN the spring, and chiefly in this period, a dense and viscid, or sily state of the blood and serum is generally more frequent than in any other period of the year. The blood, as before observed, is commonly most thin and light in July and August; towards the beginning of October, or as soon as a cold temperature of the air

118 *Of the Period included betwixt the*

begins to prevail, it becomes more dense and viscid; in the course of clear frosty weather in winter, it is again in some measure attenuated, or rendered more fluid, and less viscid, by the condensation of its globules, and in consequence of an increase of the strength and elasticity of the fibres. In spring, on the accession of temperate, or somewhat warm weather, the highly condensed red and white globules are expended, and the solids are relaxed; hence a plethora from rarefaction insues; the blood and serum become less fluid, or more viscid; perspiration is therefore in some measure diminished, by which the plethora is increased, together with the acrimony of the juices. All these causes do necessarily occasion, in this period, a propensity in the blood and serum to inflammatory commotions or effervescences, which increase the viscosity of these juices so as sometimes to amount to a considerable siziness of them, and to excite inflammatory hæmorrhages, and inflammatory and catarrhal fevers. But these fevers are excited, for the most part, by a subsequent transition from the aforesaid warm or temperate weather, to a
keen

keen frost with brisk winds, or to a long course of cold piercing winds, either with drougthy weather, or with a somewhat moist temperature of it from much lying snow, or from some showers of snow or sleet. For the blood and serum, which were expanded and rendered viscid by the preceding change of weather, are now condensed by this change so as to form into an exceeding dense and viscid or fizy mass, which most readily forms obstructions in the capillaries of particular parts where it is most apt to stagnate: these obstructions speedily induce a vehement inflammation, which gives rise to an inflammatory effervescence or fever of those vital juices, and to a consequent great rarefaction of them, with an increase of their viscosity or fizziness; whose cure depends chiefly on repeated bleeding, for the reasons mentioned in the foregoing (55.).

66. Tho' a fizy blood is often to be met with, particularly in this period, yet pleurifies, and peripneumonies are not very frequent, and are rarely fatal, under judicious treatment, in Great Britain. As a

120 *Of the Period included betwixt the*
fazy state of the blood results chiefly from the abovementioned causes (65.), and should therefore seem to be a far more frequent occurrence in this island, than in the most southern parts of Europe, yet pleurifies, and peripneumonies are sometimes both frequent and fatal in the island of Minorca *, and in some other southern countries in Europe: the principal reason of which is, that the chill northern winds, which excite these inflammatory diseases in the South of Europe, have a much greater impression on the bodies of the natives, than even a much greater degree of cold in Great Britain will have, at any time on the natives of this island, who are habituated and seasoned to a pretty considerable degree of external cold. Hence also the reason why the natives of northern climates are far less subject to vehement internal inflammations, in Italy and other southern countries in Europe, than the natives of these warm countries. It is partly for the like reason that pleurifies and peripneumonies are sometimes more frequent in Great

* Mr. Cleghorn's observations on the epidemical diseases in Minorca; from page 120 to 134.

Britain,

Britain, in the forepart of July, than at any other time in the year (12.). The solids of northern Europeans being greatly relaxed by the great change from a cold or temperate atmosphere to a southern hot climate also contributes to render them less obnoxious to inflammatory diseases there, than the natives whose solids are more dry and rigid.

67. THE catarrhal fevers and colds, that make their onset in this period, are generally more inflammatory than those that occur in any other period in the year; and sometimes they degenerate into a pulmonary phthisis, in persons naturally predisposed to this disease, which most commonly commences in the spring, either from these causes, or from an hæmoptoe, or from a profuse hæmorrhage from the lungs, with a fizy and very acrid or depraved state of the blood, or from scrophulous, scorbutic, or phlegmonous fluxions upon the bronchial glands.

68. If the weather in March, April, and May, is in general cold and moist, the
scorbutic

scorbutic disposition will be rife in April and May ; which, as before observed, is generally most predominant when the preceding spring was cold and moist, and productive of the scurvy, and the summer and autumn were extraordinary rainy, and the winter was cold and moist with little frost, because in this case the scorbutic disposition which prevailed in the preceding spring is continued throughout the year, and is greatly aggravated in the succeeding spring by so long a continuance of its external and internal primary causes. In this case the land scurvy will be very rife in April and May ; together with some other diseases that result chiefly from a scorbutic disposition ; and persons who live chiefly on salted meat will be invaded by the muriatic scurvy, or that sort which is incident to mariners, who live on salted meat and other dense foods.

69. 'Tis remarkable that the land scurvy, and the diseases depending thereon, tho' a cold and moist temperature of the air is their common outward predisposing cause, and which in many instances doth
also

also constitute their exciting cause, are nevertheless commonly aggravated in May, and sometimes too in June, even after the commencing of pretty warm and dry weather. This, I suppose, proceeds from the rarefaction of an acrid or vitiated blood, upon which the depravity of the peccant humour, and its bad effects are increased; in concurrence with a considerable increase of the relaxation of the fibres, by the solar heat, before the perspiration (which, in such morbid habits, is scanty and not easily promoted) is sufficiently increased; and before the bile, which is generally scanty, and inert, or viscid, under an habitual or influent land-scurvy, hath recovered its proper state, upon which the secretions and excretions in a great measure depend. Hence an increase of the aforesaid vernal plethora from rarefaction, with a very heavy, languid, and feeble state of the body: and if the scurvy is of a hot nature, from an herpetic humour, or an humour that is partly scorbutic and partly erysipelatous, it is now very much aggravated; and sometimes proves fatal, even to young adults; particularly, when the hot stimulating

lating scorbutic humour is determined in a great measure to the stomach. But as there is now a considerable increase of the proportion of juices that are determined towards the surface of the body; and the effluent faculty is proportionally augmented; and as the coction of retainedcrementitious humours is now more advanced than in the autumn, for the reasons before mentioned (36. 52.), which greatly facilitates their separation, and expulsion, persons of good constitutions are generally relieved from the abovesaid habitual land-scurvy, by an increase of the cutaneous discharges, or other secretions, and excretions; or by some critical disease, such as the following, which are generally most rife in the spring, and chiefly in this period. *viz.* Cutaneous scorbutic eruptions of various sorts; erysipelatous inflammations in the legs; the regular gout, the sciatica, and other local scorbutic rheumatisms, scorbutic ulcers in the legs, boils, strumæ, and ulcers from a scrophulous humour and the like. On the same principles depends, in some measure, the vernal increase of the disposition to eruptive infectious

infectious diseases, such as the small-pox, measles, and epidemic miliary fevers.

70. BUT when the scorbutic cacochymy is too powerful to give way to the coëctive, depurative, and effluent faculties, from the prevalence of one or more of the circumstances specified in the foregoing (36.), the following diseases are produced; namely, the true habitual or influent land-scurvy, flow, scorbutic, or nervous fevers, rheumatic, intermitting, and hectic fevers; scorbutic, or chronic diarrhæas, and dysenteries; the dry gripes, inveterate cachexies, with a dyspnæa, or dropsy, or both, which are often fatal to old or infirm people; hypochondriac and hysteric affections, scorbutic jaundice, melancholy, which now often terminates in madness; palsies, apoplexy, a cardialgia, an irregular, or vague gout, wandering rheumatisms, hæmorrhages with unfizy blood; besides a great variety of other diseases, resulting from the nature, situation, and functions of the parts principally attacked by the morbidic humour; the various degrees of the quantity and acrimony or depravity of

128 *Of the Period included betwixt the*
why pleurifies, peripneumonies, inflammatory rheumatisms, and some other diseases
with

by diseases that are highly inflammatory with a tough fizy blood. 8. The blood of horses hath often a very thick fizy crust at top of the coagulum when they are quite healthy. 9. In many instances a great portion of a fizy blood is reafsimilated, so as to resume its former natural state, which, in all human probability, it could never recover were it converted into a gelly, together with the serum, purely by intense heat, as the white of an egg is coagulated by fire; which besides would absolutely destroy its fluidity.

It is remarkable that the blood generally appears of a bright or light red, and thin, as it springs from a vein, in the true inflammatory rheumatism, as well as in the spurious or scorbutic sort with a poor blood, notwithstanding it discovers a considerable siziness when coagulated. In most other diseases with a fizy blood, this vital juice appears thick and black as it springs from a vein and likewise in the bason before coagulating. In obstinate and dangerous pleurifies, and hectic fevers, and some other diseases with a vehement partial internal inflammation, the coagulum contracts, and becomes insulated in the serum; and the fizy crust is often yellowish and concave at top, and the subjacent blood is black.

Seeing the blood is blended with some portion of serum, lymph, and animal spirits; and that the red globules are apt to dissolve into serum and the serous into lymph; and that the fine juices, the fluid of the nerves, perhaps, excepted, are susceptible of being condensed into the grosser; and since the blood may assume different degrees of density, and vary in a great measure in its colour, from the different degrees of the attraction
and

with a fizy blood do often occur in May, and June, and sometimes in the forepart of July.

72. In this period, and chiefly in May and June, I have observed that rheumatic, scorbutic, and gouty humours are very apt to invade the stomach, so as to occasion a cardialgia, or some pain, or oppression at the stomach, with inappetency, flatus, and an inflation of that organ, sometimes with a nausea or vomiting after meals; or more or less of the hypochondriac affection; or a furred tongue, with a sense of uncommon inward heat, sometimes with

and cohesion of the constituent particles of its globules; and from the attractions or expulsions that may take place among dissimilar juices in the mass of blood; 'tis no wonder those qualities of the blood are so much diversified in different persons and distempers; and that this vital juice is so susceptible of violent commotions or fermentations, and is so much altered by them; and that the agitation which fizy blood suffers by springing in a large stream from a vein, and falling with some force into the basin, is, in some instances, conducive towards its assuming, in a coagulate state, the true whitish or yellowish fizy aspect, which it sometimes discovers not, when it trickles down the arm from a small orifice.

K

and

why pleurifies, peripneumonies, inflammatory rheumatisms, and some other diseases with

by diseases that are highly inflammatory with a tough fizy blood. 8. The blood of horses hath often a very thick fizy crust at top of the coagulum when they are quite healthy. 9. In many instances a great portion of a fizy blood is reafsimilated, so as to resume its former natural state, which, in all human probability, it could never recover were it converted into a gelly, together with the serum, purely by intense heat, as the white of an egg is coagulated by fire; which besides would absolutely destroy its fluidity.

It is remarkable that the blood generally appears of a bright or light red, and thin, as it springs from a vein, in the true inflammatory rheumatism, as well as in the spurious or scorbutic sort with a poor blood, notwithstanding it discovers a considerable siziness when coagulated. In most other diseases with a fizy blood, this vital juice appears thick and black as it springs from a vein and likewise in the basin before coagulating. In obstinate and dangerous pleurifies, and hectic fevers, and some other diseases with a vehement partial internal inflammation, the coagulum contracts, and becomes insulated in the serum; and the fizy crust is often yellowish and concave at top, and the subjacent blood is black.

Seeing the blood is blended with some portion of serum, lymph, and animal spirits; and that the red globules are apt to dissolve into serum and the serous into lymph; and that the fine juices, the fluid of the nerves, perhaps, excepted, are susceptible of being condensed into the grosser; and since the blood may assume different degrees of density, and vary in a great measure in its colour, from the different degrees of the attraction and

with a fizy blood do often occur in May, and June, and sometimes in the forepart of July.

72. IN this period, and chiefly in May and June, I have observed that rheumatic, scorbutic, and gouty humours are very apt to invade the stomach, so as to occasion a cardialgia, or some pain, or oppression at the stomach, with inappetency, flatus, and an inflation of that organ, sometimes with a nausea or vomiting after meals; or more or less of the hypochondriac affection; or a furred tongue, with a sense of uncommon inward heat, sometimes with

and cohesion of the constituent particles of its globules; and from the attractions or expulsions that may take place among dissimilar juices in the mass of blood; 'tis no wonder those qualities of the blood are so much diversified in different persons and distempers; and that this vital juice is so susceptible of violent commotions or fermentations, and is so much altered by them; and that the agitation which fizy blood suffers by springing in a large stream from a vein, and falling with some force into the basin, is, in some instances, conducive towards its assuming, in a coagulate state, the true whitish or yellowish fizy aspect, which it sometimes discovers not, when it trickles down the arm from a small orifice.

K

and

130 *Of the Period included betwixt the*
and sometimes without insatiable thirst,
even in young adults *.

73. PERSONS,

* Tho' a vitiated digestion is by some deemed the chief cause of the gout, yet it is for the most part rather an effect of it. For the gout is often acquired, without any sensible decay of the appetite or digestion, purely from a retention, in the habit, of some portion of the recrements of the circulating juices in plethoric habits. The gouty humour, when formed will indeed impair the digestive faculty of the stomach, when it invades that organ, which it often does in a greater or less measure, before it is thrown upon the lower extremities, so as to aggravate the disease, and so as sometimes, in debilitated constitutions, to create a general cacoehymy or fatal cachexy. The stomach will also be more or less affected by the feverish disorder, or depurative fermentation, which often precedes a vehement fit of the gout, when the peccant humour is copious; and upon which the separation of the gouty humour from the sound juices, and its expulsion to the extremities immediately depend. But when habitual, or influent scorbutic, rheumatic, or gouty humours, are wholly thrown upon the extremities, or upon the skin in the form of scorbutic eruptions, or to any particular outward part, the appetite and digestion are generally good, provided the critical disease is not in a great measure inflammatory, so as to give rise to a manifest symptomatic fever, and that there is not a general cacoehymy.

When the morbid humours, peculiar to the gout and sciatica, invade the stomach, they commonly vitiate its ferment, so as to give rise to a prevalent acid in the alimentary tube, and to occasion acescent foods to fall
readily

73. PERSONS, however, of good constitutions, under the age of forty, who breathe a pure air, take salutary exercise, and live on wholesome foods, are generally healthy in the spring, provided they incur not a great degree of one or more of the non-naturals. For any acrid recrementitious or scorbutic humours that are retained in such

readily into an acid fermentation in the stomach; and sometimes they occasion an uncommon coldness of that organ, and a great relaxation of its fibres, with belching up of much sour phlegm. The morbidic humour of the sciatica, indeed, generally induces a coldness, often with a numbness of whatever part it attacks. But when the morbidic humour peculiar to herpetic eruptions, or other hot scurvies, are influent, or invade the stomach, they, on the contrary, give rise to great inward heat, with a whitish or furred tongue, a hot breath, and a febricula; which is sometimes attended with insatiable thirst, and an eager desire for cold water; and in this case, acids, and the most cooling diluents, and effluents, are serviceable; and whatever is potentially hot, or very acrid, is generally hurtful, unless such things happen to be successful in expelling the morbidic humour outwards. This disease, from an influent herpetic humour, is sometimes induced by the repulsion of an outward herpes. It is most incident to women, who are also most subject to scorbutic rheumatisms; and when attended by insatiable thirst is very obstinate and dangerous, and in some instances proves fatal to young women, even of good constitutions; and it is generally aggravated, and most apt to end in death, in May and June.

habits, in the course of the antecedent cold, and moist, and frosty weathers, are now gradually expelled, chiefly by perspiration and sweat, by the influence of the increasing warmth of the approaching sun. In such strong and healthy persons the vernal plethora from rarefaction has therefore no bad effect, unless supervened by the effect of one or more of the non-naturals; on the contrary, by increasing the velocity of the circulation, in a salutary measure without inducing obstructions, or any commotion, or fermentation of the blood, or over-distending the vessels, it necessarily increases all the secretions, and promotes vigour, and good health.

74. As more or less of a plethora from rarefaction generally takes place in the human body, in pretty warm weather, in this period, especially when it succeeds a long continued series of intense frosts, the custom which many follow of letting blood, on the accession of somewhat warm weather in spring, should seem not altogether unreasonable; the rather because there is in the spring, and chiefly in this period, a greater
and

and more general tendency to the inflammatory diathesis, than is usual at any other time in the year. Nevertheless I am of opinion that bleeding should only be practised, even in this period, in particular circumstances. Persons of good and sound constitution, who are temperate, and take a sufficiency of salutary exercise, will not stand in need of it, for the reasons above-mentioned (73.), unless an inflammatory state of the blood, or obstructions are induced by the influence of any of the non-naturals: but if the disposition acquired is of the scorbutic sort, proper purgatives, and effluent antiscorbutics, will be the most suitable remedies; and bleeding will seldom be necessary in this case, unless the acrid scorbutic humour be combined with other humours, or dispositions that are more or less rheumatic, or erysipelatous, or phlegmonous, or is of a hot nature. - Blooding in this period will generally be serviceable to adults who have a natural inflammatory, or rheumatic disposition; especially if it is customary with them to let blood annually in this period, or both at spring and fall: and in this circumstance the

omission of it will most probably be of bad consequence ; at least with regard to persons who are subject to hæmorrhages, or an hæmoptoe, or a pleurisy : but the quantity taken from such persons, at these times, when under no manifest disease that requires copious bleeding, should always be very moderate ; particularly with regard to those who are subject to hypochondriac, or hysteric affections.

75. BUT the custom, particularly in merchant ships, of bleeding mariners on their arrival in the latitude of the northern tropic, in a voyage from Great Britain to the torrid zone, or to the southward of it, is, I conceive, injudicious. For, tho' the blood is considerably rarified by the speedy transition from a cold northern air to the torrid zone, the sun being to the northward of the equator, and approaching the northern tropic, yet as the skin is greatly relaxed, and the juices are determined abundantly thereto, and as there is an almost constant increase of the solar heat, without the supervention of the chilling colds that prevail in the spring, and are frequent

frequent in the forepart of summer in Great Britain ; mariners, I say, from these causes, sweat most profusely for some time before they approach the tropic, so as to evacuate a great share of their most salutary juices along with the recrementitious, and so as not only to prevent a too great distention of the blood vessels from the great rarefaction of the blood, but to create a tendency to inanition : wherefore, by the time they arrive at the tropic, if the sun is then in, or not remote from, their zenith, they become in a great measure debilitated, and languid, their complexions are much faded, and their blood is impoverished, at least with regard to the common mariners, who live wholly on the staid ship-provisions ; the reverse of an inflammatory disposition takes place, and a general disposition to the scurvy, and to scorbutic, or putrid fevers necessarily incurred ; which occasions the scurvy, if once it begins among the crew, to increase apace while they continue at sea in the torrid zone, so as in a very short time to become epidemical among them. The primary effects of the speedy transition from a cold atmosphere to the

136 *Of the Period included betwixt the*
air under a vertical sun are nearly similar
to those which would result from a long
continuance in the dry bath. This topic
is more particularly insisted on in our treatise
in the scurvy, published in 1755.

76. INTERMITTING fevers are generally
rife, and sometimes epidemical in the
spring; particularly in the forepart of this
period included betwixt the vernal equinox
and the summer solstice; especially
when the disposition to these fevers is re-
pressed by a series of keen frosts in the
preceding period. But when the winter is
mild with little frost, and the preceding
summer was very dry and sultry, the ver-
nal intermittents will begin soon after the
winter solstice, and be most rife in the
preceding period included betwixt the win-
ter solstice and the vernal equinox; pro-
vided they are not in some measure repres-
sed by the general disposition to another
epidemic disease, as they were in 1760, in
the eastern tract of the duchy of Cleve-
land, by the miliary fever and throat di-
stemper, which were epidemical there in
February and March that year; wherefore
the

the vernal intermittents, tho' they began to appear soon after the winter solstice, arrived not at their height, in frequency, till the beginning of April, when the epidemical throat distemper was declining a-pace, and had finished its progress in most of the villages lying betwixt Guisbro' and Whitby.

77. WHEN intermittents are epidemical in the spring, they are in general spontaneously generated by the reigning diathesis, resulting from the effects produced in the human body by the constitutions of the present season, and the three preceding ones; and are promoted in some measure by the effluvia of the sick. But when the common outward causes of vernal intermittents are insufficient for creating a great disposition to the disease, intermittents will be spontaneously generated by such an acquired bodily disposition, only in some particular habits that have an uncommon predisposition to them, either naturally or by the influence of some auxiliary cause; and the effluvia of the sick will, in this case, have no tendency towards promoting the
disease

138 *Of the Period included betwixt the*
disease among persons in general; since that exhalation constitutes an exciting cause with regard to such persons, only, as are highly predisposed to the reigning disease, by its common outward causes or otherwise; being, in this respect, analogous to the effluvia of the sick in every other fever that is not truly infectious like the small-pox. In this case, when intermittents are not epidemical nor rife, the disease is excited for the most part by the influence of one or more of the non-naturals, or by the vernal plethora, in concurrence with the stimulus of long retained recrementitious humours. The non-naturals which are the most common exciting cause of vernal intermittents, consist in frequent changes of the weather, at short intervals, from a cold sharp air to a somewhat warm or temperate state of it, and *vice versa*; and in humid and other noxious vapours from marshes and low unhealthy ground: for the inhabitants of places that are high and naturally salubrious, and at a considerable distance from marshes, are sometimes in a great measure influenced by these vapours, on having the wind, for some successive days,
in

in a direct line from such distant marshes, in autumn or spring, when the antecedent weather was most apt to create a predisposition to intermittents.

78. As diseases that are not truly infectious, like the small pox, do commonly derive their obstinacy and danger in a great measure from the predisposing causes, especially when these causes are powerful so as greatly to influence the habit, and occasion it, in many instances, to contract the disease spontaneously without the concurrence of any considerable accidental or occasional exciting cause, so the vernal intermittents, when epidemical, are commonly somewhat irregular, or combined with a slow continued fever, or their paroxysms are produced so, as to render their intermissions imperfect, at least during the first seven or fourteen days of the disease; and they are often obstinate, and of long duration and sometimes dangerous, and frequently assume the form of a quotidian, or spurious double tertian intermittent. But the vernal intermittents that occur when the disease is not epidemical or uncommonly rife,
are

are generally pretty regular, and seldom obstinate or of long duration ; and such regular intermittents are exceeding salutary ; since they attenuate the juices, and resolve obstructions, and carry off, in the most effectual manner, the scorbutic humours accumulated in the habit in the course of two or three or more preceding seasons ; and thus dispose the body to perfect health and long life. Such intermittents ought not therefore to be soon suppressed by Peruvian bark ; especially as the absence of danger renders the bark not absolutely necessary. Tho' some causes of epidemical vernal intermittents are, like the autumnal, apt to induce more or less of a cacochymy or cachexy, or are in some measure malignant and dangerous, yet in general they are salutary as the former, at least to persons who reside in salubrious places ; and they do, in time, subdue their powerful immediate causes, and consequently purify the habit, and render it susceptible of good health, and of long duration ; provided the disease is not injudiciously treated. Vernal double tertians often become simple ; and the simple tertians sometimes degenerate into the

the former. I have, in this period, met with some cases of a double quotidian; which began in a continued form, and personated a remittent, and at length terminated under the form of a slight simple, or double tertian.

79. IN vernal intermittents, when unattended by a proneness to faint, or vomiting of much porraceous bile, the blood is generally of a more dense consistency than it is usually in the autumnal. I have met with some cases both of simple and double tertians, in this period, in which the blood was very dense, with some whitish fizy spots at top of the coagulum; particularly in May 1756, when the inflammatory rheumatism was uncommonly rife. These inflammatory intermittents had imperfect intermissions; they yielded not to the bark, and were most successfully treated by the remedies that were most efficacious against the rheumatism, *viz.* Repeated bleeding, vinegar whey, cold spring-water acidulated with lemon juice or spirit of vitriol, Mindererus's spirit properly diluted, spirit of sal ammoniac diluted with cold spring-water,

ter, and very gentle, cooling, attenuating and deobstruent laxatives: but as the blood was far less fizy in the intermittents, less bleeding sufficed, than in the rheumatism. I have, in this period, met with some catarrhal intermittents under a quotidian or double tertian form, with a fizy state of the blood; which mostly degenerated into a pulmonary consumption. These too are most successfully treated by repeated bleeding to the amount only of five or six ounces each time, and by a cooling, attenuating, and demulcent regimen. Some vernal intermittents are attended by peripneumonic symptoms in their first stage, when they attack plethoric men in the shape of a continued or remitting fever; in which case the blood is dense and somewhat fizy, and one or two bleedings are absolutely necessary. I have generally drawn some blood from plethoric adults under vernal intermittents with very good success: and by so doing I was always assured of the state of the blood in each case; which is often in some measure conducive towards pointing out the appropriated medical treatment. Bleeding is highly conducive towards bringing

ing the disease from a continued or remitting form to a regular type, after which it will yield to the bark, as the judicious Huxam well observes.

80. I SHALL here observe, by the by, that spirit of sal ammoniac is the most efficacious medicine, next to the Peruvian bark, of any yet known, against vernal intermittents. Tho' many cases occur that will yield to no other medicine but the bark, yet I have met with a pretty many that were only suppressed from time to time by the bark, but were compleatly cured by the alkaline spirit. Those patients who are cured by the spirit very rarely relapse, but 'tis well known that intermittents, unless they be of a mild nature, are very apt to recur after being suppressed by the bark. The alkaline spirit will often carry off vernal intermittents without premising any evacuation; it is, however, in general more successful if a purge is previously given; and if the patient is plethoric, or if the disease is attended by symptoms of inflammation, or personates a remittent, bleeding will also be proper previous

144 *Of the Period included betwixt the*
vious to the exhibition of the spirit. In
some cases of a slow nature, with dense or
somewhat fizy blood, the alkaline spirit is
the most efficacious medicine; yet, in the
first state of some tertians, under an acute
continued, or remitting form, it is impro-
per. I usually direct fifteen or twenty
drops of it to be taken in a tea cupful of
cold spring-water, and to be repeated five
or six times in each intermission. The
success of this medicine may, indeed, be
owing, in some measure, to the cold water,
which alone, being drunk on an empty
stomach, will carry off many vernal inter-
mittents. And as the spirit of sal ammo-
niac generally requires two, or three, or
more days to subdue the disease, and many
vernal intermittents cease spontaneously af-
ter a few fits, particularly in persons who
have before undergone an intermittent of
long duration, we shall be apt to attribute
some cures thereto that are performed
wholly by the powers of the body. Fixed
alkaline salt, such as that of tartar or
wormwood, diluted with cold spring water,
is nearly of like efficacy with the abovesaid
spirit

spirit against vernal intermittents, as I have in some cases experienced.

81. WHEN an epidemic, continued, or intermitting fever reigns in any particular country, the inhabitants of that country in general will be more or less influenced by the common outward causes of the epidemic disease; and the morbid disposition, which thence results, will be greater or less in different persons according as their constitutions, age, diet, and manner of life are more or less favourable thereto, and as they are more or less influenced by particular, local, or accidental auxiliary causes. Hence it is that almost all the other diseases, that happen under such a morbid constitution, generally have some affinity or resemblance, either in their symptoms or genius, with the grand epidemic disease.

82. BUT if the epidemic disease is the small-pox, measles, or any other distemper that is truly infectious, the similarity which some of the attendant diseases usually have, in some particulars, to the epidemic infectious distemper results chiefly, perhaps,

L from

146 *Of the Period included betwixt the*

from the influence of the infectious volatile matter which exhales from the bodies of the sick. For the miasmata of such distempers do in some measure influence persons who have before undergone the disease, as appears from some imperfect variolous pustules with a very light indisposition, which invade some nurses attending patients under the small-pox. This opinion is more probable because such truly infectious epidemics cannot be supposed to have generally any material dependence on the weather, since they commonly travel by a successive progress from one place to another, and are epidemical in such places in different months and seasons, under the most different temperatures and changes of the weather; and are sometimes most virulent under such a state of the weather as is seemingly most salutary, and opposite to the nature of the disease; and on the contrary; of which I could mention some remarkable instances that have fallen under my observation. But if their different degrees of virulence, and the greater or less rapidity of their epidemic progress, at different times, depend chiefly

chiefly on some occult or unknown cause in the air, which is not unlikely, some of the other attendant diseases may be influenced by that cause so as to occasion them to have some faint resemblance to the reigning infectious distemper. And as infectious diseases are sometimes more virulent, and spread faster, in some villages, than in others of like salubrity, at the same time, and in the same parish or country, the occult cause which aggravates the disease, in the places where it is most virulent, should seem to proceed from the earth, at such places, as the most judicious Sydenham hath supposed; unless the disease is, in some instances, aggravated, and hath the rapidity of its progress increased in some towns and villages, by being introduced by one or more patients under the most virulent cases of it, and on the contrary: some instances however of this sort have fallen under my observation, which would seem to corroborate this opinion; and 'tis well known that the small-pox is rarely introduced into any town or village by inoculated patients, because, I suppose, the disease in that case being ge-

nerally mild, the volatile infectious matter which exhales from such patients is scanty, and therefore is rarely sufficient for propagating the disease among the neighbouring families. Some infectious diseases, however, will be more apt to prevail in the spring and autumn, than in the intermediate seasons, chiefly, I suppose, from a general increase of the depurative, and effluent faculties in those seasons, as before observed; and they will probably, for the most part, be in some measure aggravated when they prevail under a constitution that is productive of another epidemic or dangerous disease, by being combined with other morbidic dispositions of the body; exclusive of the influence of the effluvia of such as labour under the reigning epidemic disease; and that of other noxious effluvia in the atmosphere which may be conducive towards promoting that disease, especially in a long course of dry weather with gentle breezes. Distempers that are truly infectious may also be aggravated by local and accidental auxiliary causes, as those specified in the foregoing (15, 16.); and they

they are seldom very fatal in salubrious villages.

83. THE small-pox should seem to become native to the inhabitants of any island or country, whom it once invades by implanting its seeds in the constitution in such a manner as to occasion them to become hereditary for ever after; and so as sometimes to be enabled to excite the disease spontaneously, without the concurrence of any external infection; particularly in habits who are greatly predisposed to the disease, either by the influence of the causes beforementioned, which prevail in the spring and autumn, or by some occult cause in the air, or by some uncommon change in the disposition of the personal habit or constitution. The small-pox, however, is generally propagated by recent volatile variolous matter, transported from one place to another by the winds, or by persons under, or very lately recovered from, the disease; or by cloaths that had lately been much impregnated with the effluvia of the sick.

84. A CONSIDERABLE morbid disposition of the habit of body, from particular sorts and changes of the weather, in the course of one or two months or seasons, is generally retained, at least in such habits as are most susceptible of it, for some time after its outward causes have quite ceased; in so great a measure as sometimes to be capable of inducing spontaneously the disease to which it hath a tendency, even under the most salutary subsequent weather; or at least as to occasion that disease to be excited by the influence of any of the non-naturals in a very small degree, but chiefly by the effluvia of patients under the same disease. In such cases, when the antecedent acquired disposition amounts almost to an adequate cause, the aspect and genius of the disease will depend chiefly thereon.

85. INTENSE frosts that continue with little intermission, from about the winter solstice till towards the end of March, or beginning of April, do generally extinguish in a great measure the antecedent morbid disposition; and a new diathesis begins to form in April or May: but the genius of the diseases

diseases which thence chiefly result will depend partly, in several cases at least, on some small remains of the antecedent disposition of the personal habit, which prevailed in the close of the preceding autumn, before the commencing of the above-said frosts. Each new and general morbid disposition is increased, or diminished, or suppressed, or in some measure varied, or revived, or quite extinguished, according to the particular temperatures, and vicissitudes of the subsequent weather; and each prevalent general disposition will, during its reign, determine or vary, in some measure, the geniuses of the diseases peculiar to each season.

86. Low countries that have a rich clayey soil are more unhealthful than high lands that have a light and dry sandy, or gravelly soil, and are clear of marshes, even tho' the latter should be more subject to rain than the former; because the exhalations from the latter consist of little else than pure water; which are, besides, less injurious to health, because their relaxing effect is counteracted in a great measure

by the coldness of the air peculiar to high land ; but the contrary takes place with regard to the humid exhalation from low rich land ; and these exhalations from low unhealthful ground, that have the subterraneous water but little distant from the surface, being continual, are far more pernicious than the moisture which results from frequent showers ; especially as noxious vapours are precipitated, and the air is purified by rain ; which also very much cools the air, and prevents the bad effects which result from a long course of hot and dry weather, particularly in July and August ; which, as before observed, is the principal source of the diseases, and particularly of intermittents, that prevail not only in the close of autumn, but also in mild winters with little frost, and in spring. Such hot and dry weather in the abovesaid months is more pernicious in low land with wet ditches, because the water and mud in such places is at length reduced to a thick putrid slime, which exhales the most noxious effluvia, and that too in August, when such vapours have the most pernicious influence on the human body. Hence the reason
is

is obvious why the inhabitants of high valleys are little subject to intermittents. Moreover, in rich wheaten countries, the diet, at least of the vulgar, consists chiefly of heavy glutinous foods, prepared of wheaten meal; which are far more productive of scorbutic, rheumatic, and scrophulous disorders, than the farinacious foods of the inhabitants of light sandy grounds, which generally consist of the meal of the light aperient grains, such as rye, barley, and oats. The former inhabitants do, besides, in general eat more salted and dried flesh meat than the latter, which is very much conducive towards generating the said diseases, and a great variety of other obstinate distempers which spring from the same morbidic humours. That dense rich food, however, tho' it creates more distempers, is nevertheless, with proportionable exercise, in general productive of more bodily strength, than the lighter and more aperient sort; which last is productive of more uninterrupted health, activity, and good spirits, than the former, especially in concurrence with a pure sharp air.

87. IT is remarkable that strong, healthy, and temperate persons do generally enjoy a more uninterrupted series of good health, and are less influenced by the vicissitudes of the seasons, or unsalutary changes and temperatures of the weather, after the sixtieth year of their age for fifteen or twenty years successively, than people in general under the age of fifty-five or sixty; provided the former are not hard workers, nor of an unhealthy occupation; which, I suppose, is owing to the following causes. 1. Tho' ancient, healthy, and temperate persons under eighty years generally have a good appetite and digestion, and a less copious perspiration than they had in their more early years, yet as the sides of very many of the lacteal vessels, and biliary pores, and lymphatics of the alimentary tube are in such, doubtless, coalesced, and as the orifices of such of these as remained permeable are much contracted, the finer parts only of the chyle are admitted into the mass of blood, and the more gross pass off with the fæces by the intestines. Ancient persons above sixty are therefore much less liable to a plethora, and

to an accumulation of noxious recrementitious humours in the habit, than persons under the age of fifty. 2. Such retained noxious humours are less apt to contract an high degree of virulence in old people after the age of sixty, than in persons who are much younger; because the former have a less degree of native heat than the latter. 3. Persons above fifty-five or sixty are not subject to a periodical plethora; nor are liable to the indispositions which commonly ensue, and often continue a long time, after the discharges by which such redundant juices are carried off, quite cease, or become scanty; to which disorders women are necessarily most subject, for reasons sufficiently obvious. 4. The solids of healthy old people being very compact and dense, they are expanded by heat and moisture, and contracted by cold and drought, in a far less degree, than the more lax and porous solids of younger people; wherefore the former are much less influenced than the latter, by the various temperatures and changes of the weather, and the vicissitudes of the seasons, or by noxious effluvia; especially as their blood
is

is also very dense. Such healthy, and temperate old people generally live to eighty, and upwards, in an healthy state, without suffering scarce any decay in any of the faculties of the mind. Yet 'tis very rare that one dies purely of old age; that is, by a gradual diminution of the propelling powers of the heart and arteries, and an increase of the resistance, till they come to be equally balanced, so as to occasion a general stagnation of the circulating juices: ancient persons, however strong, healthy, and temperate they may have been in the course of their lives, being generally carried off by a determination of a scorbutic, rheumatic, or gouty humour to one or other of the noble parts, after the powers of the body are so much weakened by the effects of old age as to be unable to expel such peccant humours by the emunctories; or towards the extremities or surface of the body, in the form of one of the aforementioned critical diseases. Some old men are carried off by an ossification or petrefaction of some portion of one or more of the arteries, or of some of the valves of the heart, or of those of the great arteries; but
this

this is not always an effect purely of old age, but oftener of a disposition in the juices to form ossifications or stony concretions: and others die from some of the noble parts on which life immediately depends being almost wore out, or no longer capable of performing their functions; whence fatal stagnations of the juices in particular parts, ruptures of the great vessels, a polypus in the heart or great vessels, an intire cessation of some important secretion, or excretion, or other vital function; or a total suppression of some customary discharge, as that of phlegm from the lungs or fauces, or of purulent and ichorous matter from an old ulcer in the leg. Those who live to a great age have in general a large, strong, and hard, or tense pulse, and dense blood.

C H A P. VII.

*Of the Constitution of the Air in the Year 1758
and the following Spring, relative to the
Duchy of Cleveland in Yorkshire.*

88. **I**N the beginning of January 1758 intermitting fevers began to be rife, and in the following month were epidemical, or more frequent than had been known for many years. But as more or less of the dispositions to prevailing diseases is generally acquired by the particular temperatures and vicissitudes of antecedent weathers and seasons, I shall give the following general view of the prevailing weather, and of the most predominant diseases which thence sprung in the three preceding years.

89. IN the year 1755 it rained almost daily from the middle of April till about the middle of January following. In the ensuing spring, 1756, the scorbutic disposition was extraordinary prevalent among the human species; horses, in general, that were not suffered to lie out, were more or less

less affected with the grease; and many sheep died of the rot, in which the lungs and liver are full of tubercles, and the muscular flesh is of a pale red. In 1756 the months of March and April were cold, and in general somewhat moist, and June, July, and August were extraordinary rainy. In the spring and autumn of this year intermittents were rather more rife and obstinate than usual; but in the ensuing spring of 1757, the scorbutic disposition was in some measure checked by the frosts that prevailed in January, February, and March that year. Yet as the weather, after the breaking up of the frosts in the spring of the last mentioned year was cold and moist, with some considerable transition from a cold temperate to a cold chilly air, as is usual in spring, the obstinate intermittents of the epidemic constitution, or such as were of the same genius with the epidemic ones of the subsequent spring, were thereby first excited; having made their first appearance in March, April, and May 1757, when they were pretty rife. At the same time the scurvy was also rife, and the rot among sheep was more uni-

160 *Of the Constitution of the Air in 1758,*

versal and fatal, than has been known for many years; at least among such sheep as pastured not on high and very dry grounds, or by the sea side. The months of June, July, and August following were unusually dry and sultry; and that long course of hot and dry weather, in concurrence with the diathesis generated in the constitutions of individuals by the antecedent weathers, gave rise to dangerous ardent remittents, and continued tertians, mostly in a great measure bilious in July and August; which for the most part terminated in the course of the following month in obstinate tertian intermittents, of the same genius nearly with those which appeared in the preceding spring, only that those of the autumn partook, as is usual, more or less of the nature of a quartan. Quartan intermittents were also unusually rise in September and October, this autumn, as well as tertians; notwithstanding the weather during these two months was clear and temperate, and to appearance quite salutary.

90. THE ensuing winter and spring were in general cold and somewhat moist, with

with little frost; but with frequent considerable changes in the temperature of the air. The intermittents, which declined very much in the end of October and in November, 1757, became more frequent towards the end of December following, not only by returns of many autumnal ones, which had been suppressed either by art, or by the weather in the two preceding months; but likewise by the coming on of several new ones, which were properly vernal, as to their genius; the vernal tertians having begun sooner than usual, both by reason of the mild winter with little frost, and of the universal disposition to intermittents from the antecedent weather, particularly in the preceding spring and summer, and the forepart of the autumn. In January following, 1758, those tertians speedily increased in frequency, and in February became epidemical. In March they declined apace, and almost quite ceased about the middle of April; some obstinate cases only then remaining. For tho' these intermittents were in general spurious, with imperfect intermissions, or complicated

M

with

162 *Of the Constitution of the Air in 1758,*
with a slow continued fever, at least during
the first fortnight of the disease, and then
often eluded the power of the bark, or
were not wholly suppressed, or but for a
few days thereby; yet they seldom were of
long duration, like the epidemic intermit-
tents in spring, 1760; and several had only
a very slight attack of the disease; particu-
larly such as had formerly undergone a long
continued intermittent.

91. THESE epidemic intermittents were
accompanied by some cases of a slow fever,
which remitted or personated a continued
tertian, in the course of its state or height,
which was sometimes of long duration,
and in its decrease it intermitted, and per-
sonated the reigning intermittent. At the
same time there also appeared some ano-
malous intermittents and periodical tre-
mors; likewise some latent slow fevers, and
some cases of other diseases mentioned in
the foregoing (60); which resulted chiefly
from scorbutic and rheumatic humours,
peculiar to the usual disposition of the per-
sonal habit in the spring.

92. THE

92. THE months of March and April, this year, 1758, were, in general, somewhat moist, with some great vicissitudes, from a temperate state of the air being super-vened by cold piercing winds, and *vice versa*; but the weather in general was cold, tho' little frosty, from the snow which lay a long time on the north and east sides of high lands, as is usual in these two months; for such lying snow very much adds to the chillness of the winds, even when there is little or no frost. In these months there was an increase of the inflammatory and catarrhal dispositions, which were combined with the scorbutic. Towards the end of March, when the intermittents were declining, slow fevers became more rife; and these were mostly more or less catarrhal or attended by a cough, or were inflammatory. Several cases arose of those latent slight or little fevers, which generally result from scorbutic or rheumatic humours, or an influent land-scurvy, either determined chiefly to particular internal parts, or diffused pretty equally throughout the habit; and which, tho' attended by various symptoms, which

are often in a great measure different in different persons, (since these little or influent fevers are commonly in a great measure hypochondriacal) may be comprehended under one class. A few cases also appeared of slow fevers that are either more manifest, or vehement and dangerous, and that do in general sooner terminate by a salutary or fatal crisis than the former. These may be comprehended under a second class, tho' they often vary in a great measure, both as to aspect and genius in different persons, and in different years and seasons; and in these circumstances are more or less nervous, or scorbutic, or inflammatory, or rheumatic, or catarrhal, or have a tendency to the putrid, or partake of two or more of these sorts.

93. THE slow fevers of the first class, which arose this spring, were in general of long duration, but rarely confined the patient to the house, or disabled him from doing some light work. In the aforesaid months (92.) they were commonly attended by a cough, sometimes with pain or oppression in the breast; and, in most cases,
with

with some nervous or hypochondriac affections, and in many with rheumatic, or inflammatory symptoms, which sprung from the forementioned dispositions (92.), which prevailed, particularly in March and April, this spring. The blood, under these slow fevers, was, in a few instances, more or less fizy; in others it was dense and black, or somewhat florid, or of a lax and broken consistence. The slow fevers of the second class which appeared this spring were also of long duration; and their prevalent symptoms were nervous, or catarrhal, or inflammatory. One or two small or moderate bleedings, agreeable to the indications, had a good effect in these slow fevers both of the first and second classes, provided the party was naturally strong and healthy; and this evacuation sometimes was necessary when it was not indicated by the pulse. Gentle laxatives in small doses repeated at proper intervals; temperate, aperient, stomachic, and corroborative antiscorbutic decoctions, acidulated with lemon juice; and mild cooling and demulcent attenuants, and wine, were of signal service. In some instances

166 *Of the Constitution of the Air in 1758,*
a vesicatory or two were necessary, and had
a remarkable good effect.

94. IN May the weather was dry and
serene, with gentle breezes from the sea,
between the North and South-east points,
and the days were more sultry than is usual
in this month. But the air in the shade,
and during the sun's absence, was some-
what chill, by reason of the northerly and
easterly sea-winds which continued through-
out this month and the subsequent. In
the course of this month, the aforementioned
diseases (92, 93.) continued with little va-
riation, only that the fevers in general be-
came somewhat more ardent. One case
occurred of an obstinate white flux, and
several of some other diseases mentioned in
the foregoing (60.) depending chiefly on
vague rheumatic, gouty, and scorbutic
humours.

95. DURING the first fortnight of June,
the weather, which was still very dry and
clear, was extraordinary sultry, with very
gentle easterly breezes. The fevers which
began during that time also retained, in a
great

great measure, the genius of those that happened in the three preceding months; but were still more acute or ardent, than those that immediately preceded them; and the head was oftener and in a greater measure affected in them, than in the fevers of the three preceding months. Some cases of the fevers which commenced in this period (95.) were exceeding ardent, with a rapid pulse, great inward heat, a whitish tongue, or distinct apthæ, or a tendency to them, or a dry parched and brownish tongue; and with a few small pustules chiefly on the breast. In most cases the sick became more or less delirious soon after the onset of the disease; one patient had vague rheumatic pains; others had a troublesome cough with an expectoration of much phlegm, an irregular pulse and some other nervous symptoms; and in one case, hereunder described, there were double quotidian exacerbations*. This
fultry

* William Rigg, aged about forty, farmer in Skelton in Cleveland, on the 2d June, 1758, after an indisposition of five or six days, with pain and heaviness of the head, was seized with an intense fever, attended by a vehement head-ach, vomiting, great thirst, and

168 *Of the Constitution of the Air in 1758,*
sultry weather, by rarefying the blood, and
thereby exciting an inflammatory fermentation or fever, in habits that were plethoric
and under a previous inflammatory disposition, also gave rise to some obstinate
and

a troublesome cough. The vomiting soon ceased, together with an attendant nausea, and sickness at the præcordia, and the head-ach, and the cough, were the most urging symptoms. His urine was somewhat high coloured, but of a thin body, and transparent, and his judgment was much impaired. In the end of the second week he began to have morning and evening abatements, and the nocturnal and diurnal exacerbations were vehement, with a flushed countenance. At the end of the third week these were more distinct, and the disease began to personate a double quotidian remittent; the urine became redder, and more dense, with a thin cloud; the patient began to expectorate much viscid phlegm, and to sweat pretty freely in the remissions; and some red pustules appeared on the breast and temples. In the middle of the fourth week, the urine became more thin and pale; in the end of it, very dense and high coloured; and in the beginning of the fifth week it deposited a whitish cloudy sediment. The patient now expectorated much phlegm, especially in the morning remissions, and it was less viscid and more easily coughed up than before; the nocturnal paroxysms ceased, and the diurnal ones continued, and began with some chilliness; and the disease now personated a regular quotidian intermittent. At the end of the fifth week, the sediment in the urine was less cloudy, and of a pale red. In the beginning of the sixth week, the sediment was more compact, whitish, and less copious. The pulse, which had hitherto been confused, weak,
and

and highly inflammatory diseases; particularly two cases of pleuroperipneumony in strong and young laborious men, which required very much bleeding: one case of a cephalalgia in a farmer aged about forty-five, which was attended by a dense fizy or

and unequal, at least in the close of each exacerbation, and after vehement coughing, now became pretty full, free, and equal; the disease decreased a-pace, and ceased at the end of the sixth week.

During the second, third, and fourth weeks, the patient was highly delirious in the exacerbations, and quietly so, and sometimes a little sensible in the remissions; and in the fifth week he was quietly delirious in the paroxysms, and somewhat sensible in the intervals. His tongue was generally moist, and but little discoloured throughout the course of the fever, as it often is in fevers attended by a copious expectoration, or spitting of phlegm. The patient drank plentifully, and had short but pretty sound slumbers daily in the course of the disease, which very much contributed to support his strength till a salutary crisis terminated the fever. His blood was dense, with little serum, and being of a sanguine temperament, and naturally pretty strong, he was twice bled in the first week of the fever. Some moderate doses of a suitable purging apozem were administered, together with suitable pectorals, such as simple oxymel diluted with simple hyssop water; and the pectoral decoction; and after the disease began to remit, half a dram of bark was given in the morning remission each day, and was apparently conducive towards supporting the strength of the powers of the body, and promoting a salutary crisis.

starch-

170 *Of the Constitution of the Air in 1758,*
starch-like blood, and by a slow fever, and
was cured chiefly by repeated bleeding.
Likewise one case of a true inflammatory
rheumatism, with fizy blood, and a slow
fever, which was also cured chiefly by
bleeding.

96. FROM the 14th of June to the 25th,
the weather was exceeding drougthy, but
less sultry than in the beginning of the
month. The forementioned diseases (92
to 95.) continued, and retained the same
genius nearly ; but the fevers that arose in
this period (96.) were less apt to induce a
whiteness of the tongue, or slight apthæ,
than those of the preceding period (95.).

97. FROM the 25th June to the end of
the month, the weather was cold and some-
what cloudy, with easterly winds ; and
from the first of July to the 15th it was
rainy and cloudy, with easterly winds, and
extraordinary cold for the season, some-
times with a frosty dew in the nights. In
this period (97.) pleurifies and pleuroperi-
pneumonies became at once rife ; and I
met with more cases of these diseases in
the

the space of three weeks than I had seen for two years before. For the antecedent long course of very drougthy weather, with easterly and northerly winds, had created a considerable inflammatory disposition, by rendering the fibres dry and rigid, and the juices viscid; especially as there was a previous tendency in the personal habit (92.) to this disposition; wherefore the subsequent unseasonable cold and moist weather in this period, necessarily excited pleurifies, by obstructing perspiration, and condensing the juices, and determining a great proportion of them inwards. Tho' these pleurifies, in some instances, were very vehement, with an intense fever and a cough, yet they seldom required above four moderate bleedings, with a vesicatory, cooling diluents, attenuants, and demulcents. In some patients the disease was simple, and generated almost wholly by the above-said exciting cause (97.), or by that cause joined with the influence of one or more of the other non-naturals; and these soon recovered after the inflammation was resolved: but in most cases the pleurisy was combined with an obstinate slow fever,
from

172 *Of the Constitution of the Air in 1758,*
from the disposition acquired in the course of some preceding months (91, 92.). These patients had a troublesome cough, and in general, especially such as were not robust, could not bear to lose very much blood; for after the third or fourth bleeding, the blood, tho' fizy, being less dense and viscid than usual, they were mostly seized with great sickness or anxiety at the præcordia, similar to that which succeeded some profuse hæmorrhages in the following autumn (99.); and the pulse became small and weak, and was sometimes unequal. This symptom proceeded partly from inanition, but chiefly from the genius of the concomitant slow scorbutic or nervous fever; and was most effectually remedied by Peruvian bark, valerian tea, and vinous cordials; and keeping the body temperate with lenient laxatives was also of signal service against the slow fever.

98. FROM the 16th July to the 20th of August the weather was close, moist and warm, with southerly winds. On the commencing of this weather, the pleurifies at once ceased, and slow fevers began. These
were

were in general of long duration, and partook of the genius of the most dangerous of those that appeared between the vernal equinox and the summer solstice, but were somewhat less inflammatory. In the malignant fever of this period (98.) the blood was generally florid, and rather of a lax consistency, with little serum. The disease was commonly supervened by some red pustules, some of which, in the most favourable cases, suppurated; and in a few instances it was supervened by red petechiæ; and the prevalent diathesis had a tendency to the putrid or petechial. The head was chiefly affected therein, and in some cases the head-ach, at the onset of the fever, was so vehement as to induce a delirium or phrenzy. The most malignant cases had double quotidian exacerbations, as those in the case before narrated; the urine was commonly pale, with a thin cloud near the surface; and the pulse was small, weak, quick, and unequal. In less malignant cases the pulse was pretty full and equal, not very quick, and sometimes rebounding; the urine in these was somewhat dense and high coloured; and the
tongue

174 *Of the Constitution of the Air in 1758,*
tongue and skin were moist. In some instances the disease was supervened by colliquative sweats, or by a dysentery, or a colliquative diarrhæa; which were fatal symptoms if they came on in the last stage of it. This fever was remarkably infectious to such as lived under one roof with, and near to, the sick, or that often approached them and remained some time with them. Few malignant cases of it appeared in Cleveland, yet several had a slight attack or some faint appearance of it. It was rife and fatal in some populous towns, where its common outward causes were reinforced by some local, or accidental auxiliary causes, together with an abundant morbid effluvia from the bodies of the sick; and in such places it often personated, or was supervened by, a dysentery, which added to its infectious power. In the close of this period, I met with one case of an obstinate pleurisy (from the causes mentioned in the foregoing (28.) combined with the reigning slow fever. This case required seven bleedings in the space of twenty days, and a vesicatory; for the patient could not bear to lose much blood in a short time, as in the simple pleurisy.

In

In the course of the fourth week, after the inflammation was resolved, the patient had frequent returns of an hiccup, which was an hypochondriac or nervous symptom, chiefly from inanition, and was carried off by the bark. Some other cases of an obstinate intermitting hiccup of long duration, attended by a frequent belching up of much phlegm, from a great relaxation of the fibres of the stomach, I have cured with Peruvian bark, after a great variety of other medicines had proved unsuccessful. But when this disease results from a rheumatic humour invading the stomach, and there is little or no manifest fever, nor a sizziness of the blood, I combine the bark with some aromatics.

99. FROM the 20th August to the 24th September the weather was moist, and unusually cold, with northerly and easterly winds. In this period, and till the accession of the epidemic colds in the end of October, the inhabitants of the salubrious towns and villages in Cleveland, in general, were healthy. The few cases of fevers, which then appeared in these places, partook

176 *Of the Constitution of the Air in 1758,*
took of the genius of those of the antecedent periods of this year, but were for the most part more inflammatory, and less malignant than the fever of the preceding period (98.). The fever of this period commonly began with obstinate vomiting of long continuance, and was attended by fixed or vague rheumatic pains, and a vehement head-ach, and in some instances by worms. Some cases of it were supervened by an obstinate diarrhæa with gripes, and tenesmus, or by symptomatic sweating, or both. At the same time I met with two cases of the dysentery, and one of a tenesmus with gripes, and with four cases of the dry gripes, from the determination of rheumatic, or scorbutic humours to the intestines. These dry gripes were not very obstinate; the application of a vesicatory upon the inside of one thigh had a remarkable good effect in that disease, after premising bleeding and purging, by attracting the morbidic humour, and greatly relieving the intestines. The most efficacious purgative I have experienced in such cases is the solution of an ounce, or ten drams, of sal cath. am. in about a pint of a decoction of
8 ani-

aniseed. But if the gripes are attended with great inward heat, and a vehement fever, from some degree of an inflammation of an intestine, or if the disease amounts to an iliac passion, the most successful laxative I have yet experienced is new churn-milk with all its butter, in a granulated form, before it unites or is gathered into one mass. This medicine is more valuable by being pleasant and very refreshing to the patient; whereas sweet oil is apt to be nauseated, and is besides less laxative than the former. In this case too a vesicatory on the thigh is of signal service, and bleeding ought to be practised agreeable to the indications relative to this intention; if the blood is fizy, the cure will depend chiefly on the free use of the lancet, and the semicupium will be of service. Some cases of an ophthalmia, and of some other humoural fluxions, now also occurred; many cases appeared of the rash termed effere, which very much resembles the blisters caused by the sting of nettles, and is commonly most rife between the first of August and the autumnal equinox; and a siziness of blood was oftener met

178 *Of the Constitution of the Air in 1758,*
with than is usual in this period. Two
cases of a profuse vomiting of blood, joined
with a slow fever, now also fell under my
observation, both in persons above fifty
years of age; and some women had a pro-
fuse flux of the menses. After drawing
some blood from the arm, cold spring wa-
ter acidulated with spirit of vitriol, and
Peruvian bark combined with a small pro-
portion of allum, and laxatives at proper
intervals, were the most efficacious medi-
cines against these hæmorrhages, in which
the blood was little or nothing fizy.

100. As the morbidic humour of the ma-
lignant infectious fever, which arose in the
beginning of the preceding period (98.)
was now determined in a great measure to
the intestines by the cold and moist tem-
perature of the air, the dysentery was very
rife, obstinate, and fatal in some populous
towns, where the common disposition there-
to, and to the said malignant fever, from
the outward primary causes already men-
tioned, was increased by local or accidental
auxiliary causes, or by the effluvia of the
sick, and their dejections. This dysentery
was

was exceeding rife in Newcastle and Stockton betwixt the middle of July, and the beginning of October (98, 99.); and was generally combined with more or lefs of the reigning fever which in fome instances it fupervened.

101. FROM the 24th September to the 8th October, the weather was fair and mild with westerly winds. On the 9th October, it blew fresh from the fouth-east, with fmall rain; and on the 10th, the wind rofe to the violence of a tempeft, ftill attended with fmall rain. This ftiong gale veered about to the fouthward, and terminated next morning at Weft. From thence to the 22d of this month, the weather was temperate, and fair, but in general clofe, and fomewhat moift, with little fun-fhine, and with gentle breezes from the South-east. On the 23d and 24th, it was cold and moift; and on the 25th, there was an exceeding cold and piercing brisk North-east wind, with intenfè froft; which, next day, was fupplanted by a brisk fouterly wind, which at firft was very chill; and foon after a thaw commenced, with rain,

180 *Of the Constitution of the Air in 1758,*
and the weather became at once warm ;
and from thence to the 3d November, it
continued warm, or mild, and moist, with
constant southerly breezes.

102. Now the close, mild, and somewhat moist weather, betwixt the 9th and 22d of October, relaxed the habit, and occasioned a predisposition to the most epidemic colds that have appeared for several years ; which were first excited by an intensely cold brisk North-east wind, with keen frost, on the 25th. These colds became at once epidemical, and were continued and aggravated partly by the subsequent moist weather, with southerly winds inclining to the eastward ; which relaxed the habit, and diminished perspiration, and gave rise to profuse rheums, which commonly attended these colds. Tho' the epidemic colds were first excited by the very cold weather on the 25th of October, yet as a general disposition to them was generated by the antecedent weather, several new invasions happened on the succeeding days betwixt the 25th October and the 9th of November. These were excited chiefly

chiefly by the moist weather in the last mentioned period, in concurrence with the effluvia of patients under the disease: in some persons the disease may have been generated purely by an increase of the acquired diathesis; and in several it was excited by the slightest influence of some of the non-naturals; for in such circumstances, the least unusual exposition to cold, or such as would have had no bad effect at any other time, will excite the epidemic disease; which was now, doubtless, more rife and universal, because the general constitution of the year was in a great measure productive of the catarrhal disposition. It was remarkable that in Guisbrough (which was in a great measure sheltered from the cold wind, by which the epidemic colds were first excited, by the hills which almost surround it) these colds became not epidemical till about the middle of November, when they were very much declined in Skelton and other neighbouring places: whence it should seem they were excited and propagated in Guisbrough chiefly by infection, or the morbid influence of the effluvia of the sick,

182 *Of the Constitution of the Air in 1758,*
the inhabitants having previously acquired
a great diathesis thereto by the influence of
the antecedent weather.

103. THESE colds commonly terminated
in seven days, and very seldom exceeded a
fortnight; especially when they began by
a profuse rheum or coryza; unless there
was a manifest attendant fever. They ap-
peared in various forms in different per-
sons. For the most part the disease began
by a coryza, with frequent sneezing, and
abundance of thin sharp rheum often con-
tinued to run from the nose for four or
five days; this was followed by a moderate
cough, with an expectoration of concocted
phlegm, or with a discharge of thick con-
cocted pituite from the nose, which soon
terminated the disease. Some were affect-
ed with the coryza only, and some had
a cough without any expectoration; the
morbific humour going off partly by the
coryza, and partly by perspiration. Others
had a vehement cough which attacked
them only at nights in bed; and very few
coughed much in the day-time. Some
had a hoarseness, with a stoppage in the
superior

superior part of the breast, and a shortness of breath after brisk motion, and little or no cough. In a few the cough was attended by a continued or remitting fever, and with fixed or vague rheumatic pains; which in some instances was malignant, and consisted of an aggravation of the stationary fever of this year by the proximate cause of the epidemic cold; joined in the most vehement cases, by some peculiar internal, or constitutional causes. Persons subject to an asthma, or to a spitting, or hauking up of much viscid phlegm, had an increase of these disorders. The blood under the epidemic colds, when simple, was not at all fizy, and blood-letting was generally unnecessary.

104. THE predisposing and exciting causes of the epidemic cold also gave rise to several cases of a vehement lumbago, and ischiatica, and the gout, in persons above forty, who were subject to these diseases, which now were combined with more or less of a continued, or remitting fever.

184. *Of the Constitution of the Air in 1758,*

105. IN October some of the scorbutic eruptions peculiar to the land-scurvy were rife, as is usual in this month; and the stationary fever was more apt to be super-vened by symptomatic sweats and miliary eruptions than in the preceding period in which the weather was moist and unseasonably cold (99.); and children were exceedingly infested with long round worms. It was remarkable that very few cases of a true tertian intermittent appeared in salubrious places this autumn; and a quartan was a rare occurrence, even in places subject to agues; doubtless because there was little warm weather in summer; and the weather in August and September in general was cold and rather moist. A fizy blood was much less frequent in October than usual, by reason of the mild temperature of the air throughout this month, three days of it only excepted.

106. FROM the 9th to the 18th November, the weather was dry and serene, with gentle frosts in the nights, and very salutary. In this period the colds declined apace;

pace; but in the close of it, the inflammatory disposition became more frequent. On the 19th and 20th, the weather was rainy with southerly winds. From the 20th to the 28th it was cold, and somewhat moist with gentle frost now and then at nights; and a keen frost on the 29th and 30th, with a North-east wind, succeeded by a sudden thaw, with a warm and moist state of the air, on the first of December, gave rise to new colds.

107. In December the weather was unseasonably mild and fair, with southerly winds. On the 30th, it grew very cold, with frost and some snow. This cold weather quickly ceased and on the first of January, 1759, was succeeded by unusually mild and fair weather, which continued with scarce any interruption till the 20th of February following. Towards the end of December some cases appeared of a tenesmus, which had an affinity with the dry gripes, and of a slow fever with fixed or wandering rheumatic pains; and of some other diseases resulting chiefly from rheumatic and inflammatory dispositions. In
the

186. *Of the Constitution of the Air in 1758,*
the end of January, cold and brisk dry
westerly winds of two days continuance,
subsequent to a long course of very mild
and fair weather with southerly winds,
gave rise to recent colds, which now be-
came extraordinary rise; and as the in-
flammatory and rheumatic dispositions pre-
vailed, these colds were, in many instan-
ces, attended by a crick in the neck, or by
a soreness of the throat, or a slight oph-
thalmia, or pain in the breast. At the
same time the vernal intermittents began to
make their appearance; they were pretty
rise by the middle of February, and to-
wards the end of March they almost quite
disappeared.

108. A FOURTH accession of colds was
induced, about the middle of March, by
piercing North-east winds, with frost, and
some snow; and for some days following,
the weather was cold and dry, with brisk
westerly winds. These colds were still
more rise and inflammatory, and attended
by more frequent and vehement coughing
than the former; and in many patients
were supervened by sore throats, with some
out-

outward swelling, resembling the squincy or throat distemper, which was epidemical in Cleveland in spring and autumn, 1760; or by tumours of the lymphatic glands of the neck and fauces; or by peripneumonic symptoms, or fixed, or wandering, rheumatic pains; and the scorbutic disposition being now rife, the reigning colds were in some persons attended by an obstinate slow fever, and were supervened by scorbutic and miliary eruptions.

109. A FIFTH accession of colds was brought on, about the middle of April, by cold easterly winds with night frosts; and these colds, in many instances, personated either a catarrhal or peripneumonic fever; which, in May, after the accession of warm dry weather, with gentle easterly breezes in the evenings, became more acute and inflammatory, with an apthous or whitish tongue, and to a few proved fatal. In some cases of this fever, the cough was more vehement than in any that occurred in the course of the preceding colds; and it was in some patients attended by a vehement periodical head-ach, or megrim, or was
super-

188 *Of the Constitution of the Air in 1758,*
supervened by miliary eruptions. The
morbific humour that prevailed therein was
in many cases partly erysipelalous, and
partly herpetic, and exceeding acrid and
moveable, causing violent pain, or a sense
of burning heat in the parts it attacked,
and great thirst. In some cases the blood
was of a dark red, in others it was more
or less fizy, in the beginning of the disease.
Those who had been long affected with a
latent little fever, with a whitish or furred
tongue, and a driness of the mouth, fauces,
and gullet, and with hypochondriac symp-
toms, from an inward land-scurvy, or scor-
butic humour, had an increase of the dis-
ease on the commencing of warm weather
in May and June; and the scorbutic and
erysipelalous dispositions then prevailed.

110. THE very uncommon mild and in
general dry weather, with southerly winds,
which prevailed in October, November,
December, January, and February, render-
ed the human body very susceptible of colds
upon the accession of every cold wind, both
by relaxing and debilitating the habit, and
by being quite unseasonable. In that period,
the

the common stationary fever, depending chiefly on the disposition generated in the personal habit by the state of the weather during some antecedent months, was also generally excited by the common outward causes of the abovementioned colds; wherefore it was in general more or less catarrhal, or combined with some degree of the reigning cold.

III. WE have already shewn the several variations of the stationary or constitutional fever of this year, under different changes and temperatures of the weather, from January till the accession of the epidemic colds in the end of October; we now proceed to give a general idea of its genius in the succeeding winter and spring. In these two seasons, several cases of that fever appeared both in an acute and slow form. In some instances it was continual, with nocturnal exacerbations; but for the most part it assumed the form either of a quotidian or tertian remittent; and in a few cases it personated a double quotidian remittent. A very acrid rheumatic, and somewhat scorbutic, and inflammatory,
move-

190 *Of the Constitution of the Air in 1758,*
moveable humour, acquired partly by the external predisposing, and exciting causes of the reigning colds, generally prevailed therein; and in some instances it was complicated by a vague ischiatic humour, or that which is the source of a lumbago and sciatica. This fever was generally of long duration, and the most urgent symptoms often varied in different persons, from the diversity of their constitutions, or the particular state of the personal habit in each, and the nature, situation and functions of the parts that were chiefly attacked by the abovementioned morbidic humour. Most of the patients had a violent head-ach, which was either constant or periodical. When the fever remitted, or intermitted, the head-ach was periodical, and returned and remitted or intermitted with the fever: it also generally remitted, or intermitted daily, when it was partial in the form of a megrim. In some patients the morbidic humour was determined chiefly to the stomach, causing pain, or great heat, or sickness and oppression at the stomach and præcordia; or inappetency, or nausea, and vomiting, or insatiable

able thirst. In some dangerous cases, the periodical head-ach was accompanied by a pain at the pit of the stomach; in others, the morbidic humour invaded the intestines, and gave rise to fixed pain or gripes; whence an obstinate constipation, and some degree of an iliac passion or dry gripes, or a tenesmus with gripes, or a diarrhæa, or a dysentery. In some persons it chiefly affected the bladder, and occasioned vehement pain in that organ, and a stranguary, or an ischury. Some patients had a soreness in the throat, which in a few ulcerated, but proved not fatal; and the fever in these was vehement and dangerous, and of the putrid sort, and blistered portions in the lower extremities were apt to ulcerate. In November, two patients, both under eight years of age, had the head drawn to one side; but in February and March, that symptom had a less tendency to the tetanus, and was more inflammatory, joined with swelling in the form of a crick in the neck. Several patients under the said fever had wandering or fixed rheumatic pains, chiefly in the shoulders, the loins, and lower extremities, and some-

192 *Of the Constitution of the Air in 1758,*
times fixed internal pains, during the first epidemic colds in October and November: but under the reign of the subsequent colds, these pains were oftener internal, and were attended with a more dense or fizy blood than the former. In some persons the fever was supervened by a swelling of one or both legs, but most commonly of one; or by a considerable swelling of one side of the face, or of both sides of it, and of the throat; or by an ophthalmia, or an inflammation and imposthumation, or a tinnitus, in one ear or both. Some had a dry skin, which was no bad symptom; but the skin in most cases was moist, at least in the decrease of the exacerbations; and some had copious sweats, which very much abated the vehemence and danger of the disease, provided it was not attended by an imposthumation in the lungs. In one boy of a puny habit, aged five years, the morbid humour invaded the vital parts, and induced fatal convulsions. In the beginning of this fever, which was a quotidian remittent, his head was drawn to one side, and the paroxysms were attended by a vehement pain in the head, and at the pit
of

of the stomach. Some had several small boils, with only a slight fever, chiefly from the inflammation attending the boils; and in this case the morbidic humour being collected in these eruptions, the internal parts remained free from its attacks. Others had a slight, and some an ardent, fever, with a rash, or miliary eruption; and most patients had more or less of a cough. The urine, for the most part, was somewhat dense, with a copious loose, or cloudy sediment, or with a dense cloud near the bottom; and the blood in general was dense and sometimes more or less fizy. In December and January, a few cases of the small-pox appeared in Guisbrough; which were mostly of the flat chrystaline, or ichorous sort, and fatal. The secondary fever in these was exceeding ardent, with double quotidian exacerbations, and an inflammation of the alimentary tube; attended by great inward heat, and unquenchable thirst, which induced aphthæ, notwithstanding the exhibition of the most antiphlogistic regimen.

112. IN these fevers in general, particularly such as were flow with unfizy blood, a pretty frequent repetition of suitable laxatives, when the strength of the patient and the genius of the disease would admit, had a very good effect, by evacuating a great share of the moveable morbidic humour, and contributing to resolve obstructions, and promote perspiration; and by supplying in a great measure the defect of an impaired perspiration under such fevers; even so as sometimes, in some dangerous cases, to render velicatories unnecessary. I have given with good success, in some obstinate flow fevers, a decoction of suitable purgatives, temperate aperients, diaphoretics and antiscorbutics; such as rhubarb, fenna, aniseed, Peruvian bark, roots of parsley, burdock, Florentine orris, turmetic, and polypody, orange peel, saffron, cochineal, the leaves of mugwort, and the greatercelandine. The patient drank a small tea-cupful of it two or three times every day, or every other day, or as much as kept his body somewhat soluble. Blistering the lower and interior portion of one thigh,
or

or both, was of signal service in several cases, both by drawing off a great share of the morbidic humour, and determining it downwards from the head, and other noble parts; especially as that humour was commonly in a great measure rheumatic, or erysipelatous, or scorbutic, and moveable; and often tended spontaneously to the lower extremities, at least towards the height of the disease, or in its decrease. The application of a vesicatory on the thigh was often very serviceable even before the disease was much advanced, by attracting the moveable morbidic humour towards the lower extremities, and preventing the most dangerous symptoms which often elude the power of blisters and other remedies. For in these slow fevers, when a great share of the morbidic humour is determined to, and fixeth in some internal part, it is often exceeding difficult to dislodge it thence; both on account of the slowness of the fever, and of the nature of the obstructed morbidic humour, which being in a great measure scorbutic, or rheumatic, is exceeding difficult, and sometimes scarce susceptible of perfect concoction; especially as

that peccant humour is apparently lodged mostly in the fine lymphatics. The early application of one or two vesicatories upon the lower extremities, in such cases, is more justifiable, because they both resolve and discharge unconcocted morbid humours, as is obvious in many local rheumatisms, pleurifies, and some other partial diseases. Mild attenuant and deobstruent diaphoretics were also proper; such as Mindererus's spirit, or the neutral mixture of lemon juice and salt of wormwood, diluted with some simple distilled water, such as that of balm, mint, hyssop, or parsley; emetic wine, or Dr. James's fever powder in very small doses; and the like. 'Tis obvious that many other remedies were at times necessary as they were indicated by the symptoms and particular state of the disease in each person; such as bleeding in a greater or less measure according to the indications relative to this intention; emetics, pectorals, vinous cordials, Peruvian bark; opiates, demulcents, glysters, the warm bath, or the semicupium, vesicatories applied upon or immediately under the parts chiefly affected, sinapisms, &c.

113. THE stationary fever, which was combined with some pleurifies and pleuro-peripneumonies in the aforesaid period (111.) was, in some instances, more malignant, than that which was combined with the pleurifies that appeared in July (97.): the two following cases of that compound disease proved fatal. In December, 1758, John Norton, aged about fifty, was invaded by a pleurify, or pleuroperipneumony, with dense fizy blood. The pleurify was resolved by copious bleeding, but the attendant malignant fever continued, and was supervened by a swelling of the legs, which soon receded, and was succeeded by great pain and heat in the bowels, joined with costiveness, flatus, sickness, an intumescence of the abdomen, and great thirst. In the end of the third week of the disease, when I first saw the patient, he had a most dangerous or malignant fever of the putrid sort, with an aphthæ, sickness at the præcordia, and a small weak, and unequal pulse; and tho' the aphthous crust then began to cast off, yet in the end of the fourth week he expired.

114. IN the beginning of April, 1759, a farmer's wife, aged about fifty, in the neighbourhood of Guisbrough, was seized with a violent pain in her left side, attended by a dyspnæa, and cough, and a pulse that was somewhat quick, but neither tense, or hard, nor strong. By two copious bleedings, and a vesicatory upon the affected side, the pain was so much abated as to give her little uneasiness; yet an impostumation and ulceration in the lungs ensued; with violent and frequent coughing fits, and a profuse fetid purulent, and phlegmy expectoration, which at first was tinged with blood; and the attendant fever became ardent, with quotidian exacerbations, and colliquative sweats. In the end of the fourth week, the ardency of the fever increased, and was attended with great internal heat, unquenchable thirst, and supervened by the aphthæ. The urine was dense and high coloured, and after standing some time it deposited a muddy sediment, and suspended a dense cloud. In the middle of the fifth week, the aphthæ began to exfoliate, leaving behind a soreness, or an excoriation of the mouth, fauces, and gullet.

gullet. The sweats became viscid, the urine, which was still of a dense body, and cloudy, was now of a dark livid hue without any sediment; the patient weakened apace, and died before the middle of the sixth week. This case personated an acute, or galloping consumption: the blood that was drawn off in the beginning of the disease had only some fizy spots on its surface.

115. I SHALL observe here, by the by, that the thrush (aphthæ) induced by ardent fevers, and inflammations of the bowels, is very different from that which invades some infants soon after their birth, tho' the illustrious Boerhaave makes no distinction betwixt them (Boerhaav. Aph. 978 ad 988.); who also reckons five different species of it; namely, the white, the yellow, the brown or dusky, the livid, and the black; and asserts that the fourth and fifth are the most malignant, and the second and third are more so than the first. The only thrush I have yet seen, in the course of my practice, is the white: that induced by fevers is always preceded and attended by great internal heat at the stomach, or

200 *Of the Constitution of the Air in 1758,*
intestines, and sometimes too in the fauces,
and gullet, unquenchable thirst, and a
quick pulse. When this thrush is com-
pleat, it not only covers the tongue, but also
the inside of the cheeks, the lips, the pa-
late, and fauces; and upon the palate it
is smooth, uniform, and perfectly white,
and of a considerable thickness; it some-
times also, most probably, takes place in
the villous coat of the oesophagus, the sto-
mach, and all or most of the small intes-
tines, but it never reaches the anus, and is
always a fatal symptom, as far as I have
yet experienced. A few days before death
it commonly begins to fall off in sloughs,
and in that case the mouth and fauces,
especially in catarrhal fevers with a copious
spitting of phlegm, are almost clear of it
before the fatal period. When the crust
begins to separate it commonly assumes a
brown or dusky hue; and it may some-
times, when it separates not at all from the
internal membrane of the mouth, become
livid, or black, when death is at hand. But
the tongue, when much parched, is com-
monly of a brown or dusky hue even when
the aphthous crust upon the palate is per-
fectly

fectly white. This thick symptomatic aphthous crust does not usually regenerate, but leaves a foreness, or an excoriation of the subjacent parts, after separation; which again are sometimes dried and parched by the continuance of the ardent fever, and may sometimes have a black or livid aspect at the article of death. In some fevers, with great inward heat, the tongue only becomes white with distinct or superficial aphthæ, which are not generally a symptom of great danger. Some of the fevers, with a symptomatic rash, that appeared in May, 1758, were supervened by this species of aphthæ; and they generally attend pretty vehement cases of the measles and other miliary fevers. Another species of aphthæ, which are not malignant, after disappearing sometimes without the separation of any manifest sloughs, leaves behind a moist foreness of the mouth, and fauces, which sometimes continues for several days; in this case the aphthæ upon the tongue are sometimes large, like small-pox, and distinct as those which supervened some cases of the epidemic miliary fever, in Cleveland, in spring, 1760. These

were

202 *Of the Constitution of the Air in 1758,*
were the result of an erysipelatous inflammation of the villous coat of the mouth and fauces, and in a few instances left behind some pretty large and deep ulcers in the sides of the tongue, and in the inside of the cheeks and lips.

116. THE thrush peculiar to children, on the other hand, is generally an idiopathic or original disease, and is very rarely fatal. It begins by very small distinct white spots, which soon overspread the tongue, and all or most of the inward surface of the mouth, and fauces; then forming, when considerable, one uniform white crust, at least upon the palate, as the symptomatic sort; and this thrush peculiar to children sometimes extends to the anus. It generally accedes spontaneously without any, or with very little, previous fever; and when slight is attended by no manifest fever, or uncommon thirst. Its increase and state generally take up more or less time, according as the thickness of the crust is greater or less. It always becomes yellowish, or brown, at its state or height; then the crust begins to fall off, and soon after

after disappears, leaving the child healthy. But if the aphthæ are distinct, or if the aphthous crust is very thin, it disappears gradually in children without any observable exfoliation. During its first stage, or increase, it is for the most part in vain to use gargles with a view to carry it off. A solution of borax in spring-water, the most powerful dissolver and detergent of it yet known, will destroy the white crust in its increase, provided it be not very thick; but it always regenerates speedily after, unless it be very slight. But if the crust is very thin, or if the aphthæ are distinct, and the disease is gentle, and extends not beyond the fauces, the borax will make a perfect cure, even in its increase, or before it grows yellow, or brown, especially if aided by gentle laxatives.

CHAP.

C H A P. VIII.

Of the Diseases which happened in Cleveland, betwixt the Summer Solstice and the Autumnal Equinox, in 1759; with some Cases of the bilious Fever, as it appeared in that Country, in July and August the same Year.

117. **I**N May, and the beginning of June, 1759, the weather was pretty seasonable, with showers, and some changes, as usual, from a warm to a cold state of the air, and *vice versa*. From about the middle of June to the middle of August, it was extraordinary dry and sultry; and in the end of July, and in August, the nights, in general, were somewhat chill, so as to occasion, at that time, a considerable difference in the temperatures of the air in the days and nights.

118. **I**N June and July, some cases occurred of an obstinate and dangerous fever, which was in a great measure catarrhal, or peripneumonic. The most urgent symptom

symptom therein was an obtuse pain at the middle and lower part of the breast, with a sense of stoppage and oppression as if caused by the impaction of some humour, which, in some cases, could neither be resolved, nor concocted and expectorated; the patients had more or less of a cough, and the blood was little or nothing fizy. About the middle of July the bilious disposition began to take place, from the influence of the extraordinary hot and dry weather. Then the abovesaid fever assumed a bilious aspect, particularly in peasants above the age of thirty, who worked hard in the solar heat; in whom it was also, for the most part, combined with and rendered more obstinate and dangerous by a subtile rheumatic humour, chiefly of that sort which gives rise to the lumbago and sciatica; which 'tis likely was mostly generated in the course of the preceding winter and spring, when scorbutic, rheumatic, erysipelatous humours were exceeding prevalent.

119. ABOUT the middle of July, a stout laborious peasant, aged fifty, servant to
Ralph

206 *Diseases which happened in Cleveland,*

Ralph Ward esq; was attacked by the aforesaid fever, partly under a bilious form. In this case the abovementioned obstinate stoppage, with pain and oppression in the lower part of the breast, behind the cartilago xiphoides, was an urgent symptom, which was aggravated and accompanied by a nausea, with great sickness and anxiety at the præcordia, from an accumulation of highly vitiated bile in the duodenum. The patient had also vehement pain in the loins from the aforesaid subtile rheumatic humour; which in this fever was apt to invade the præcordia, or the head, where it induced the most dangerous symptoms. But in this case, as the patient vomited bile, and had frequent vehement retchings in the course of the first three days of this disease, which were not so frequent as to cause an egestion of all he drank, the malignity of the disease was thereby much abated; for the accumulated bile was expelled, and the morbid humour, both in the loins and breast, was in a great measure resolved and dissipated by the vomiting, and partly discharged by the sweats excited thereby; and by being thus determined,

mined,

mined outwardly, it was prevented from invading the noble parts, and from inducing nervous symptoms, or a fatal lipyria. On the sixth day of the disease, when I first saw the patient, his eyes and skin had a light yellowish tinge, and his urine was exceeding dense and bilious, without any cloud or sediment; he had also livid petechiæ on both arms, and a dry brownish tongue; besides the abovementioned pain and stoppage in the lower part of the breast, with a cough: but his pulse was equal and full, and pretty strong (as it was commonly in the bilious fevers that occurred this year, in cases in which the native heat was nearly uniform throughout the body, without any considerable nervous symptoms) the skin was moist with a breathing sweat, and the febril heat was moderate, and pretty equally distributed all over the body: wherefore the petechiæ, especially as they appeared only upon the arms, did not here indicate insuperable danger. Tho' this patient was once blooded in the beginning of the fever, before I saw him, yet on the sixth day, as the obtuse pain in the breast continued, as the vomiting

208 *Diseases which happened in Cleveland,*

vomiting had ceased, and the febril heat was not remiss in the lower extremities, and the pulse was full and strong, I drew about four ounces of blood from the arm; which formed into a lax coagulum of a very dark red, with little serum; by which it appeared that the pain and stoppage or oppression in the breast was not, in this case, truly inflammatory, or peripneumonic, but rather an effect of the aforesaid subtil rheumatic humour, and that farther bleeding was improper. This fever, which was continued, began to decrease after the seventh day, and by the fourteenth was quite gone off. The patient took two purgatives, which I sent him, before the sixth day of the disease, and two more in the subsequent course of it; together with some cooling pectorals, and suitable drinks consisting chiefly of a beverage of cold spring-water, lemon juice, and a little sugar; and sometimes he drank some new churn-milk; and a vesicatory was applied on the inside of one thigh.

120. IN the end of July, and beginning of August, the nights became a little chill,
by

by reason of gentle easterly breezes from the sea, tho' the days were sultry, and the difference was great betwixt the temperatures of the air in the days and nights. Then the stationary or constitutional fever of the year begun at once to assume the forms both of regular and continued intermittents; and it became more bilious, and nervous, and, in general, less catarrhal, than before; the morbid humours being then determined in a greater measure to the abdominal viscera, the præcordia, and encephalon; and there were few instances of an high inflammatory disposition, with a fizy state of the blood. The most dangerous cases, that now occurred, personated a continued double or triple quartan, or a quartan with extended or protracted paroxysms; and they were both in a great measure bilious and nervous; or they assumed the form of an ardent continued or remitting bilious fever; or of a continued, or spurious simple, or double tertian, with bilious symptoms. Several cases of pretty exquisite simple and double tertians also occurred, which were exceeding vehement; and the sick were commonly more or less

P

delirious

210 *Diseases which happened in Cleveland,*
delirious under the paroxysms, which were
often extended *.

121. A YOUNG man, aged twenty-six,
of a robust constitution, was seized with a
double quartan intermittent; the conti-
guous paroxysms were extended and unit-
ed, so that he had an intermission only of
about eight hours in forty-eight, and the
disease in effect personated a simple tertian
with extended paroxysms. He had vehe-
ment vomiting in the beginning of the
paroxysms, violent pain in the head, and
pain in the loins, redness of the conjunc-
tive tunic of the eyes, with a cough and
some pain and stoppage in the breast; and
was somewhat delirious in the paroxysms.
On the seventh day, when I first saw him,
I drew off eight ounces of blood, which

* Tertians intermittents, whose paroxysms exceed
twelve hours, may nevertheless be deemed exquisite;
provided the cold fit is of short duration, and is quickly
succeeded by an intense hot fit, with an uniform distri-
bution of the native heat all over, and a full strong and
equal pulse, which terminates by a profuse sweat; for
in that case the crisis, or the first spontaneous long in-
termission with critical symptoms, is generally more
speedy and certain, and the indicatory days are more
manifest and regular than otherwise.

had a thin fizy crust at top; and the patient was thereby much relieved. On the succeeding day he was purged; and it appeared by the sequel that this disease was of the quartan tribe; for after this procedure it terminated in a regular double quartan, which after a few circuits put on the form of a simple quartan, which was neither so vehement nor of so long continuance as many other cases of a quartan which appeared this autumn.

122. THOSE fevers had a prosperous issue, and were most exquisite and true, in which the paroxysms, or exacerbations, began with vehement vomiting, provided it ceased before the height of the paroxysm, or as soon as it began to decrease, with a moist skin. For the vomiting had the good effects beforementioned (119.), and dislodged the anxiety or oppression at the præcordia, and accelerated the recession of the cold fit, whose protraction was dangerous, especially to persons above thirty-five or forty years of age, rendering the hot fit and its crisis less compleat, and sometimes inducing a lipyria, or a coma, or an

212 *Diseases which happened in Cleveland,*

apoplexy, or dangerous faints. For in these remitting and intermitting bilious fevers the bile was neither so acrid and greatly vitiated, nor so copious, as in the bilious fevers which often invade unseasoned Europeans in the West Indies; wherefore the vomiting and nausea were not continual, and did not in any instance induce an excoriation and inflammation of the villous coat of the stomach, from the acrimony of the bile, with instant vomiting of whatever was ingested, as often happens in the West Indian bilious fever, in which vehement bilious vomiting is therefore of dangerous consequence. Those patients also recovered, under proper management, whose urine, in the remissions, or intermissions, became turbid, and deposited a copious whitish, or lateritious sediment.

123. IN those cases that were in a great degree bilious, or partly bilious, and partly rheumatic, with a determination of the subtle rheumatic humour to the præcordia, the oppression at the præcordia was generally the most urging symptom, and
was

was attended by a loin-ach; and in some dangerous cases the loin-ach was the most prevalent symptom. Some cases were in a great measure rheumatic, or nervous, or inflammatory, and in a small degree bilious; in these a head-ach was generally the most predominant symptom, which sometimes was attended by a flame colour of the conjunctive tunics of the eyes; in which case, leeches applied to the temples, or the opening of a vein in the temples or forehead had a good effect, after drawing seven or eight ounces of blood from the arm or foot, if the patient was strong and plethoric, and the fever high, as well as laxatives, and one or two blisters. But when the head-ach was exceeding vehement without any redness of the eyes, the case was generally more nervous and dangerous, and less inflammatory, and bleeding was necessary in a less degree. The continued intermittents, whose paroxysms were anticipating, were, in general, more dangerous than those whose paroxysms commenced later every day than other. The cold fits of the continued quartan were most dangerous to hard working men.

214 *Diseases which happened in Cleveland,*

above thirty-five years of age, who were subject to the sciatica ; their obstinacy and danger being probably increased by the morbidic humour of the last mentioned disease, which generally creates an obstinate coldness and numbness of the affected limb.

124. IN continued quartans, and tertians, attended by an obtuse pain and oppression in the lower part of the breast, with a cough ; or by great anxiety at the præcordia, with incessant jaçtation ; or with a constant vehement loin-ach ; or with a yellowish tinge of the white of the eyes ; or with a constant vehement head-ach ; the bark was either ineffectual, or in some measure detrimental ; especially if the urine was dense and high coloured without any sediment. But when the exacerbations, or paroxysms, tho' very dangerous, with sickness, fainting, delirium, stupor, shrinking, slight convulsions, or sighing, decreased with profuse sweats, and ended, at least, in a pretty compleat remission, with hypostatic urine ; and the inflammatory symptoms, if such attended the disease, were previously

previously removed, or abated by suitable treatment, the bark proved successful, after the exhibition of a purgative, or an emetic, or both; especially if the disease was well advanced. In such circumstances the bark either put a stop to the dangerous exacerbations, after which the disease perforated an unmalignant slow continued fever, or it suppressed the cold fits, whose protraction with cold extremities, and a consequent increase of the anxiety at the præcordia, and other malignant symptoms, was the chief cause of the danger and fatality of some cases of these fevers. After the malignity of the disease was thus removed, if it did not gradually exhaust itself under the form of a slow fever, it generally assumed the form of a regular intermittent, or was easily reduced into a regular intermitting form by proper management.

125. THE weather continued dry till towards the end of September, and after the middle of August was temperate, and to appearance very salutary. In the period included betwixt the middle of July, and the autumnal equinox, there also appeared

216 *Diseases which happened in Cleveland,*
the following diseases, beside those already mentioned. Slight or unmalignant fevers supervened by a rash, or miliary eruption, or by the effere, were pretty rife among children and youths ; but much more so in some towns and villages than in others. Great anxiety at the præcordia commonly preceded the eruption ; and in a few instances the anxiety was attended by dangerous faints or convulsions, particularly in children whose teeth were cutting, or by a vehement head-ach. Some cases appeared of a squincy of the same species with that which was so frequent among adults in spring, 1760 ; some cases also occurred of an ardent rash, or miliary fever, with aphthæ, or a whitish tongue, and a soreness of the mouth or throat among children ; which was epidemical, with regard to youths, and children, in 1760. The effere, in some instances, was attended with swelling, chiefly of the face and neck ; and in some cases of a continued fever, which appeared betwixt the middle of August and the autumnal equinox, there was a swelling of short duration all over the body in the beginning of the fever, without any eruption ;

eruption ; doubtless from the morbidic humour of the effere, or of the said miliary eruption, which nature was unable to expel ; and these cases were attended, in their first stage, after the recession of the swelling, by obstinate vomiting.

126. In the end of July and beginning of August several cases occurred of an unmalignant cholera morbus, which performed its own cure, with little or no medical aid, and was properly a critical bilious disease ; since by the timely discharge of the bile, before it had acquired a much greater degree of acrimony and depravity, a malignant bilious fever was probably prevented. The cholera morbus proved fatal in two instances only, within the circle of my observation, this autumn ; tho' there was an extraordinary tendency to the bilious diathesis, from the uncommon heat and driness of the weather in the months of June, July, and August. One of these patients, aged eighty years, was invaded and speedily carried off by the cholera morbus, after he had laboured, for the space of five months, under a diarrhæa and tenesmus,

nesmus, with flatus and gripes. The other, aged about sixty, was subject to frequent returns of an habitual diarrhæa, which had very much impaired the natural strength of his constitution. The cholera morbus which carried him off personated a malignant bilious fever, as I was informed, for I saw not this patient.

127. THE bilious, and other continued, remitting, and intermitting fevers of this period, rarely appeared in the form of a dysentery, or was supervened by that disease, in the Duchy of Cleveland. But in Newcastle they appeared, as I am informed, frequently in this shape, from a determination of the morbid humours to the intestines: Wherefore the dysentery may properly be deemed in some measure critical, as well as the aforesaid cholera morbus; especially as the appropriated remedies of such a dysentery consist chiefly of evacuants, at least during the first stage of the disease, when astringents are generally pernicious, either by increasing very much the concomitant fever, or by determining the morbid humour to some of the

the

the noble parts, and inducing the most dangerous symptoms, or symptomatic diseases. Such a crisis, however, must be deemed spurious and imperfect, since the discharged humours are acrid, virulent, and unconcocted, and apt to induce dangerous symptoms; having some analogy to ill-conditioned ulcers in the legs, or a gonorrhæa.

128. SOME of the fevers which occurred in the abovesaid period (125.) were very slow, or latent, from a scorbutic humour; and some of the most vehement continued intermittents terminated in an anasarcaous dropfy, with an attendant slow fever; so that a dropfy was a more frequent occurrence than usual this autumn, and in the following spring. In some adults the autumnal fever personated a lumbago, or an ischiatica, with an attendant slow remitting fever; and several had only some slight feeling of the autumnal disease, which was soon carried off by one or two suitable purgatives; and in some such cases it was proper to premise bleeding. By the same remedies also some dangerous fevers, or
fluxes

fluxes were prevented; for these were often preceded by a slight indisposition, with a sense of load and oppression at the stomach, an impaired appetite, uncommon thirst, pain in the loins, heaviness, debility, high coloured urine, and a faded complexion of a dun or yellowish hue; and the humour, evacuated by a brisk purgative, consisting chiefly of rhubarb, was, in two instances, almost of the colour and consistency of tar. Intermittents were very rife, and the quartan was remarkably so this autumn; indeed all the intermittents that now appeared partook more or less of the nature and genius of a quartan, and were variable, obstinate, and of long duration. The cases already narrated (119. 121.), and the following ones, exhibit the bilious fever as it appeared in Cleveland in July and August, 1759.

C A S E I.

129. JOHN PICKERING, farmer, aged thirty-six, of an athletic habit, and fresh complexion, began about the middle of July, 1759, to have a sense of load and
oppression

oppression at the stomach, with some pain in the loins, an uncommon thirst, and a great desire for cold water. This indisposition gradually increased, yet prevented him not from working hard in the field. At length he became feeble, listless, inappetent, and his complexion faded, and became of a dun hue; and on the 10th of August following, about seven in the morning, he was seized with a cold shivering, which continued an hour, and was succeeded by vomiting of bile, and an intense fever, with a large, and pretty strong, but not rapid pulse, great sickness and oppression at the præcordia, a vehement head-ach, pain in the loins, a very uneasy sense of pain or foreness all over the body, dense high coloured transparent bilious urine, costiveness, and unquenchable thirst. The vomiting ceased soon after the cold fit, and returned no more in the course of the disease. I ordered eight ounces of blood to be drawn from the arm, but a country man who bled the patient drew off about fourteen ounces of blood, which was somewhat dense, but unfizy, with little serum. A temperate attenuating diaphoretic

222 *Diseases which happened in Cleveland,*

mixture was exhibited, with suitable cooling acidulated drink; and on the morning of the second day he took a full dose of a decoction of senna, rhubarb, and tamarinds, with some aniseed. This purgative operated well, and a moderate sweat, with a remission of the fever, and all its symptoms, commenced in the evening of this day: but the urine was still very high coloured, bilious, and transparent; the white of the eyes had a light yellowish tinge, and the face was of a dun hue, inclining to yellow. On the third morning, the paroxysm began about five o'clock, without any shivering or vomiting; but the anxiety at the præcordia was intolerable, attended by incessant jactation, a remissness of the native heat in the extremities, great foreness all over, pain in the loins, unsatiable thirst, and faintness; and the febril heat descended not to the lower extremities till towards noon; then a sweat broke out with some abatement of the anxiety at the præcordia, and other symptoms; but the sweat was scanty and viscid, and the urine the same as on the two preceding days; and this paroxysm did not
remit

remit till the morning of the fourth day. In the remission of this day the patient was pretty easy, and flattered himself with hopes he had got the worst over; but the urine was still transparent, and of a denser body and more bilious than before; the yellowish tinge of the white of the eyes was more manifest, and the patient was weak, faint, and spiritless, always with some oppression at the præcordia. A laxative was administered in this remission, by which some porraceous bile was discharged. On the morning of the fifth day, at three o'clock, the paroxysm began as on the third day, without any shivering, or any manifest sense of coldness, and was attended with immense anxiety at the præcordia, coldness of the extremities, incessant jactation, unquenchable thirst, shrinking, a tremulous or fluttering motion in the flesh in different parts, and a proneness to faint. At eight this morning, when I visited him, the anxiety and other bad symptoms being in nowise abated, and as the patient did not vomit (119. 122.) nor had any loose stools, I immediately gave him fifteen grains of ipecacuanha, by which he puked
only

only twice, with some difficulty, and threw up some dense porraceous bile; then a sweat, which was scanty and somewhat viscid, broke out, chiefly on the trunk of the body, with some abatement of the anxiety and faintness; the tongue was hitherto a little whitish in its middle portion, and somewhat moist. But the native heat was remiss in the lower extremities, and the febril heat never more descended to them, but was concentrated at the vitals; and the patient could not suffer to have his breast covered with the bed-clothes: yet as there was manifest signs of an accumulation of acrid bile in the duodenum, which, apparently, was the chief immediate cause of the bad symptoms, the patient took, in two hours after vomiting, a solution of six drams of glauber salt, with some rhubarb. This operated well in the afternoon, and brought off much green bile; and in the evening the disease remitted in a great measure; but the native heat was still somewhat remiss in the lower extremities; the icterus was now conspicuous; and the urine was dense, bilious, and almost black. In this remission, after the operation of the
cathartic,

cathartic, the patient took half of an electuary composed of half an ounce of Peruvian bark, and one dram of solubile tartar, with syrup of sea water, and the remainder was exhibited early next morning. A vesicatory was applied on the inside of one thigh; and white wine was given by way of cordial throughout the course of the disease. The patient, who had hitherto slept very little, dosed much the ensuing night, and was under some degree of a stupor. On the morning of the sixth day, before taking the remainder of the abovementioned electuary, he had one loose bilious stool; and about ten this morning he became comatous, and could not swallow any liquid, nor retain glysters; the febril heat was intense at the præcordia, with a clammy moisture on the skin; the native heat was remiss in the extremities; the blistered portion had a pale aspect, and discharged little or no serum; the pulse, which was still large, was irregularly intermitting; a hiccup came on; the right hand, which on the preceding day he kept slowly moving at top of the coverlet, had now a constant tremulous motion. In the afternoon,

Q

the

226 *Diseases which happened in Cleveland,*

the coma terminated in an apoplexy attended by a copious hot clammy sweat on the trunk of the body, and chiefly at the præcordia, probably from a hot putrid fermentation of the contents of the stomach and intestines, and a consequent putrid tendency of the solids and fluids; and on the seventh day, about noon, the patient expired. The abdomen swelled considerably, and the yellowness increased after death.

Remarks, and Reflexions on the foregoing Case.

130. THE patient's eyes were not inflamed, nor were their vessels turgid, chiefly, I suppose, because he vomited only at the onset of the disease, and was plentifully blooded soon after it commenced.

131. THE paroxysms, in this disease, resembled those of a quartan, and it was doubtless of the quartan tribe, tho' it personated a spurious, or continued, simple tertian with extended paroxysms, as did the quartan mentioned in the foregoing (121.). But in the foregoing case (121.), the paroxysms,

oxyfms, tho' extended, were in other respects exquisite and true, wherefore there was a manifest change in the disease to the better after the seventh day. But in this patient's case the paroxyfms had an unprosperous aspect, and discovered a great degree of malignity, by a faint and protracted cold fit, with extreme anxiety, which personated a lipyria, tho' there was no internal inflammation; and which rendered the hot fit imperfect, so as to impede in a great measure the subaction and cocction of the morbid matter, and the salutary critical sweats which should terminate the paroxyfms.

132. THE bile was doubtless greatly in fault, in this fever. The antecedent indisposition was also apparently bilious, with a latent fever; and most probably resulted in a great measure from a dense black bile, as happened in two similar cases mentioned in the foregoing (128.); and that dense black bile, on becoming thin and acrid, and by its stimulus causing an increase of the secretion of the bile, most probably contributed to give rise to the acute bilious

fever; in which the vitiated state of the bile resulted, I suppose, partly from a liquified rancescent state of the animal fat, from the hot and dry state of the air; partly from an impaired perspiration; and partly from an absorption and reassumption into the mass of blood, of some portion of the bile affused into the duodenum. The secretion of vitiated bile is probably increased by that which is absorbed after acquiring a putrid taint in the duodenum; which also increases the anxiety, and other bad symptoms peculiar to the disease. An increase of the secretion of the bile doth also, in some measure, result from an increase of the tenuity of the blood and serum, and fat, in sultry and drougthy weather, in July and August: and 'tis probable that a rancescent state of some share of the animal fat, with an high orange colour of it, doth contribute towards inducing the symptomatic icterus, as well as the absorbed and reassumed tainted bile. Hence it is that the symptomatic icterus, in the bilious fever, indicates the utmost danger; and is far more virulent than the jaundice which results

results wholly from a regurgitation of pure uncorrupted bile.

133. A VIRULENT rheumatic humour also prevailed in this case, which was almost the sole cause of the loin-ach which took place both under the antecedent indisposition, and the succeeding acute fever; and also of the very uneasy pain all over the body under the fever: and this subtil rheumatic humour, in concurrence with the vitiated bile affused into the duodenum, was, doubtless, the chief cause of the great anxiety at the præcordia, by which the vital power was greatly oppressed, so as to admit of a long and faint cold fit in the form of a lipyria. The immediate effects of that lipyria, which stood for the cold fit, also greatly increased the anxiety at the præcordia, and its bad effects: for as the motion of the blood was very slow in the extremities, during the cold fit, so as to occasion a great diminution of their native heat, a greater proportion of blood must have been determined to the trunk of the body, and particularly to the large veins, while the resistance to the propelling force

230 *Diseases which happened in Cleveland,*

of the left ventricle of the heart was necessarily increased. Hence there ensued not only great anxiety at the præcordia, but also an increase of the secretion of bile, during the cold fit, from a determination of a great proportion of juices to the liver; for this reason bile is often vomited towards the end of the cold fit in all intermittents, but most commonly in the autumnal ones, when the bilious diathesis is most prevalent.

134. IN this case, as the febrile heat never descended to the lower extremities, and the native heat was always remiss in them, after the onset of the third paroxysm, on the morning of the fifth day, the patient may properly enough be said to have died by a protraction of the cold fit, or of that fit in the shape of lipyria.

135. THE abovementioned subtile rheumatic, or scorbutic humour, which greatly added to the malignity of this case, was, perhaps, partly acquired in the course of the preceding winter and spring, when scorbutic, rheumatic, and erysipelatous humours were extraordinary prevalent. This
subtile

subtile morbidic humour, whether it be contracted gradually in the course of one or two seasons, or in a short time from cold, is most apt to invade the nerves; and more or less of it takes place in all fevers; and, by invading the encephalon, the præcordia, and other nervous and noble parts, is the chief immediate cause of the dangerous nervous symptoms which supervene obstinate fevers; exclusive of those which result wholly from inanition, and other immediate effects of the fever. In the first stage of the disease a great portion of it is often thrown upon the spinal marrow in the loins, where it creates more or less of a symptomatic nervous lumbago. But in the last stage of the disease, or before the accession of dangerous nervous symptoms, it usually quits the loins, and is translated to the præcordia, or the head; upon which the lumbago ceases, and the most dangerous nervous symptoms commence; unless the powers of the body, after some degree of a coction of it, are enabled to expel it by one or more of the natural emunctories; or towards the surface of the body in the form of a phlegmon, or

232 *Diseases which happened in Cleveland,*

of boils, or a cutaneous eruption; or to the hips in the form of a sciatica, or to the legs in the form of a gout, or of an erysipelatous oedematous swelling. In hard working men above thirty, this subtle morbid humour doth often partake of the nature of that which gives rise to a true sciatica, and in such is most apt to excite some degree of a lumbago under a vehement fever; in whom it has also, in general, towards the crisis, a greater tendency to the hips, thighs, legs, and feet, than in persons under that age. But if the crisis of the fever is very imperfect, this subtle scorbutic humour sometimes fixes in one or more of the abdominal viscera, and gives rise to the hypochondriac affection; it always very much vitiates the functions of the parts it chiefly attacks; and sometimes creates palsies, and other chronic diseases, which vary according to the nature, situations, and functions of the parts it chiefly invades after such an imperfect crisis. A great portion of the sound juices, particularly such as are most gross, are doubtless vitiated by an ardent fever, or by a slow fever of long continuance, so as to be incapable of re-assimilation.

assimilation. But as the depravity these acquire, consist, most probably, of a tendency, or vicinity of them to putrefaction, they will be thereby attenuated, and less apt to form obstructions, and chronic diseases, after the crisis, than the abovesaid scorbutic humour, which is exceeding difficult of concoction, especially as it is probably lodged in the fine lymphatics. Wherefore those juices that are thus vitiated purely by the fever will generally be carried off, under a salutary crisis, by the natural emunctories, or determined to the surface of the body, where they will be most apt to form into critical phlegmons or boils.

136. SOME share of the recrements of the animal juices, and of unassimilated acescent chyle, after being long retained in the body, constitutes the morbidic humour which is the source of the land-scurvy, scorbutic rheumatisms, and many other diseases depending on these, such as obstinate latent fevers of very long duration, the hypochondriac affection, palsies, dry gripes, &c. Persons of all ages and constitutions have generally more or less of this scorbutic

234 *Diseases which happened in Cleveland,*
butic humour in their habits. But it varies in some measure as to its particular nature or species, and gives rise to different diseases, in different persons, according to the age, custom, diet, and manner of life of each individual, and the particular order of vessels in which the scorbutic humour is most prevalent. But the morbidic humour by which almost all acute fevers are chiefly excited, is a subtile acrid simple rheum, which is readily accumulated in the habit in consequence of an impaired perspiration from cold, or from the usual predisposing and exciting causes of fevers in general. This rheum, tho' recent, and most simple, is sometimes thrown upon the nerves, and gives rise to the most vehement nervous symptoms. Even the idiopathic, or original tetanus, one of the most vehement diseases incident to the human body, is instantly occasioned by such an acrid simple and recent rheum, joined with the effects of a long exposition, in an inactive state, to a chill and moist night air, after a sultry day, on the solids and fluids, and chiefly on the nerves and their contained fluid. This rheum is by far more
easy

easy of concoction than the abovesaid scorbutic humour, and readily admits of this change in simple colds; and the crises of all or most acute fevers that are not truly infectious, depend chiefly on the coction and expulsion thereof.

137. In truly infectious diseases, such as the small-pox, and measles, the morbidic humour is compounded of these scorbutic, and rheumatic humours (136.), and of the particles of the sound juices that are assimilated to the nature of the imbibed infectious miasmata. Consequently these diseases, and indeed all fevers, will generally be most obstinate and fatal in such persons as have a scorbutic, rheumatic, erysipelatous, or scrophulous habitual disposition in the greatest degree, previous to the onset of the fever; other circumstances being nearly alike. 'Tis, however, probable that some persons, from a particular state of their solids and fluids, from constitution, or otherwise, exclusive of those unsalutary dispositions, are susceptible of having a greater proportion of their sound juices assimilated to the nature of the infectious miasma,

236 *Diseases which happened in Cleveland,*
miasma, than others, which, in such, will necessarily increase the vehemence and malignity of the disease, even tho' they should be previously prepared in the best manner by art for the reception of it. 'Tis also observable that the morbidic humour of infectious diseases, is exceeding subtile, and apt to invade the nerves, and create rheumatic and nervous complaints, before it is thrown outwards in the form of pustules, or boils, or concocted, and expelled by the emunctories; without the concurrence of any habitual scorbutic, or rheumatic humours.

138. THE motion which some dying patients make with one hand at top of the coverlet would seem to be convulsive and involuntary, since in the preceding case it degenerated into a constant tremulous motion of the hand and arm. Hence the reason why this symptom in the last stage of a fever generally indicates the speedy approach of death; for convulsions of any sort, if they come on in the last stage of a fever, denounce the utmost danger. The intumescence of the abdomen after this
patient's

patient's death, was, doubtless, occasioned by the putrefaction of the bilious humours accumulated in the stomach and intestines; and as these humours, by retention (for the patient had no spontaneous vomiting after the first morning of the disease, nor any discharge by stool for near two days before he died) doubtless began to putrefy some time before death, that putrefaction was conveyed in some measure into the mass of blood; whence arose the spurious apoplexy, with a putrid fever in the trunk of the body, which soon put an end to life.

139. As this patient vomited at the first onset of the disease only, and as the continued quartans and tertians of this constitution had a prosperous issue, whose paroxysms began with vehement spontaneous vomiting, for the reasons already mentioned, I am of opinion that a strong emetic, or a full dose of the vitrum antimonii ceratum, taken in the beginning of the second and third paroxysms, on the third and fifth mornings of the disease, was the most likely remedy to save the patient; provided it would not have occasioned an
increase

238 *Diseases which happened in Cleveland,*

increase of the secretion of the bile, with a determination of it to the stomach, and instant vomiting of things ingested, as strong emetics are apt to do in malignant bilious fevers. Vesicatories applied on the thighs, or legs, on the third day of the disease, before their native heat was irrecoverably diminished, might have been conducive towards preventing that fatal symptom which they could not remedy. 'Tis probable the bark had no bad effect in this case, because it was given in a remission of the disease on the fifth day, immediately after the operation of a purgative; and the patient had one loose bilious stool next morning, before taking the remainder of the electuary of the bark. But I am of opinion that on the morning of the sixth day, after the commencing of the stupor, some strong medicine that would rouse the patient, cleanse the alimentary tube, and promote an equal distribution of the native heat throughout the body, should have been given in lieu of the remainder of the bark, which should not have been administered had I seen the patient on the morning before it was given him. A medicine
that

that would operate briskly both by vomit and stool, was most likely to answer the abovesaid intentions, and possibly might have given a favourable turn to the disease, even when the fatal coma was about to commence; for the patient was naturally strong, and his present debility resulted chiefly from the oppression at the præcordia, and the unequal distribution of the native heat, from the causes mentioned in the foregoing (132, 133.); which might have given way in a great measure to such a medicine. Glass of antimony prepared with wax should seem to be well adapted to this purpose; and a full dose of it, given before the accession of the coma, might possibly have had the good effects above-mentioned. A full dose of Dr. James's fever powder might also have been efficacious in this case, provided it would have operated both upwards and downwards, which it sometimes does, as well as by sweat. But this powder often operates differently in different persons; both the manner and degree of its operation being uncertain and not to be depended on. If in the abovesaid circumstance such a powder had been given,

240 *Diseases which happened in Cleveland,*

and operated only by sweat, it would have done no manner of service, but rather aggravated the disease, by occasioning a more copious absorption of the putrid bilious humour which was then, doubtless, accumulated in the alimentary tube; besides the partial putrid fever in the trunk of the body, from that cause, which commenced with the coma, was attended by a constant hot sweat which gave no relief.

140. SINCE writing the above, I had an opportunity of observing, in 1760, when the epidemical miliary fever, and the throat distemper reigned in Cleveland, that some adults, under the last mentioned distemper, had, in the first two or three days of the disease, a very uneasy pain all over the body, chiefly in, and immediately under the skin, or in the tendinous expansions of the exterior muscles, from some tendency to the miliary eruption, which nevertheless appeared not; the throat distemper being, in very few adults, attended by it; who, in lieu of the rash, had a greater degree of the squincy, with spitting of much phlegm. Now the like exterior rheumatic

8
pains,

pains, which were so troublesome to the foregoing patient, during the first stage of the disease, might have proceeded from a similar humour, since miliary fevers were then pretty frequent among children and youths.

C A S E II.

141. JOHN COOPER, farmer, aged forty-five, of a robust constitution, but subject to a lumbago, began, about the middle of July, 1759, to be affected with a sense of load and oppression at the stomach, pain in the loins, and uncommon thirst, with high coloured urine; his complexion faded, and became of a dun hue inclining to yellow; yet he persisted to work hard, in the solar heat, the weather being then exceeding dry and sultry. On the 11th of August, about six in the morning, he was taken, in bed, with a considerable chilliness, which continued an hour, then was succeeded by a fever attended by a vehement head-ach, redness of the white of the eyes, pain all over the body, dense high coloured bilious urine, and an increase of

R

the.

the symptoms which attended the antecedent flow bilious and rheumatic indisposition. In the morning of the second day, after a short remission of the fever, he was seized with a pretty intense cold fit, with shivering; after which the fever was stronger than on the preceding day; and during its increase, by a nausea and vehement vomiting, by which abundance of green bile, with some phlegm, was egested; and a small blood vessel in the fauces was burst by the straining to vomit; and the patient discharged about four ounces of blood by the nose and mouth. In the evening the paroxysm remitted with a breathing sweat, and the patient got some sleep in the forepart of the night. On the morning of the third day, at five o'clock, the paroxysm began by coldness of the extremities, great anxiety at the vitals, insatiable thirst, and incessant jactation without any shivering: at eight this morning, the patient began to vomit, and some bile and phlegm were egested, and a little blood issued by the mouth and nose from the abovesaid ruptured vessel. The vomiting and retching, which recurred at short intervals

tervals till the eruption of the critical sweat at 10 o'clock, accelerated the recession of the imperfect, or spurious cold fit, and promoted a more equal distribution of the febril heat; but the sweating was in a great measure impeded by the constant jactation, for the anxiety at the præcordia never quite ceased, tho' it decreased with the paroxysms, and abated in the evening remissions; and it often excited a starting, and bouncing up of the chest, when the patient dozed. On the morning of the fourth day, the patient, after getting some sleep in the forepart of the night, was seized with a paroxysm precisely similar to the former, with vomiting, and an effusion of some blood from the nose. In the decrease of the paroxysm on this day, when I first saw the patient, his face was of a dun yellowish hue, the white of the eyes had a light yellowish tinge, and their capillaries were large and turgid; the pulse was pretty large, not quick, and at times unequal; the pain in the loins was now somewhat diminished, but the anxiety at the præcordia was greater and more constant, than in the beginning of the fever. The head-ach which in this

case was not very vehement, abated on the second day, and ceased on the third, chiefly, I suppose, in consequence of the above-said hæmorrhage induced by the vomiting. His tongue was parched, dry and brownish, his lips were gummed over with a brownish varnish or crust, by the saliva, which was yellowish from a mixture of blood, altered, as to colour, by the heat of the mouth; the urine was of a dense body, transparent, and high coloured, as if tinged both with blood and bile; the native heat in the lower extremities was rather below the natural standard, partly, indeed, because, the patient was exceeding restless, and never suffered himself to be covered a moment by the bed-clothes. As he had lost, in all, by the hæmorrhage, about ten ounces of blood, and the native heat was somewhat remiss in the lower extremities, I refrained bleeding, and ordered him a dose of a decoction of fenna and rhubarb, with some aniseed, and vitriolated tartar; which operated well, and brought off abundance of green bile. On the fifth day the patient vomited little, the bleeding ceased; the icterus was rather more manifest than

than on the preceding day; and the urine, which was still dense and bilious, now became turbid and whitish when cold, or after standing some time; other particulars were the same as on the preceding day. On the sixth day there was no material alteration; but the patient was rather weaker; the native heat was still somewhat remiss in the extremities; and the exacerbations, or paroxysms remitted, since the fourth day, with little or no critical sweating, which, as before observed, was in a great measure interrupted by the incessant jactation. On the seventh day the pulse was rather quicker than before, and somewhat smaller, but pretty equal, the urine was less dense and high coloured, and that made in the remission, this day, deposited a copious whitish sediment: but the tongue was still dry and parched, and the teeth and lips gummed as before; the thirst and other bad symptoms continued; and the patient had some degree of a stupor, in the paroxysm, or was not quite sensible, or was regardless of every thing about him, by reason of the intolerable anxiety at the præcordia, and the consequent jactation;

246 *Diseases which happened in Cleveland,*

so that he seldom made any reply when spoke to. On the eighth day the paroxysm remitted, or abated, about four in the afternoon, as before; the pulse was softer and weaker, and was still at times unequal in the spurious cold fit, but pretty equal in the remission. The thirst now ceased in the remission, and was much abated under the paroxysm, the native heat in the extremities was somewhat increased, but the other bad symptoms continued. The patient had taken since the third day three doses of the abovementioned purgative, which operated well and caused a great discharge of green bile; but the two last stools from the third dose were yellowish, apparently from a vituline bile. The ceasing of the thirst in the remission of this day was an effect chiefly of the cathartics, which carried off the dense accumulated green bile its chief cause. The patient had slept a little in the forepart of each night hitherto, but in the ensuing night he was restless, and got little or no sleep. On the ninth day the state of the disease was nearly the same as on the preceding day. On the 10th, in the morning, the exacerbation
was

was vehement, with a manifest febril heat all over the body, which before was chiefly internal, as in the lipyria. Some share of the morbid rheumatic humour, which was fixed at the præcordia, now began to be moved, and to tend upwards to the head, whither it was determined chiefly in consequence of watching; for tho' the patient dosed a little at times, yet he had got no real sleep since the eighth day of the fever; and the patient, who was under some degree of a stupor, now often pointed to his head. About noon, this day (the 10th), when the paroxysm usually began to decline, the patient became highly delirious; yet the urine was still dense and high coloured, and after standing some time became turbid and whitish. This paroxysm was produced, and continued till the morning of the twelfth day; then it remitted, and the urine again deposited a copious white sediment. But the patient was still restless, and under some degree of a stupor. A laxative was administered, which operated well, and the stools were yellowish. The paroxysm, which before always began early in the morning, com-

248 *Diseases which happened in Cleveland,*

menced on this 12th day about noon, with a diminution of the native heat in the extremities, anxiety, and jactation as before; and as the head was now in a great measure affected, and the native heat was still somewhat remiss in the lower extremities, a large vesicatory was applied on the inside of one thigh. On the morning, the 13th day, a pretty compleat remission commenced, the patient had some sound sleep, and was somewhat sensible, and the native heat in the extremities increased. On the fourteenth he slept more and sounder than he had done at any time hitherto; his tongue was moist; the pulse was pretty full, free and equal, but rather weak and soft; the urine was paler, with a less proportion of white sediment; and the disease on this day intermitted. On the 16th day the paroxysm again changed its hour of invasion, and now began in the forepart of the night, about eleven, and was still vehement with a small degree of stupor, anxiety and jactation; it remitted next morning with a scanty sweat, about 10 o'clock, and thus it continued to the end of the third week; after which the disease personated a
simple

simple tertian intermittent, with imperfect intermissions; the paroxysms became gradually milder, and in the beginning of the fifth week the disease terminated in a very slow or latent fever, with quartan exacerbations, a constant oppression in the epigastrium, and right hypocondrium, and some degree of a jaundice; which in the space of four weeks yielded to squill pills, and a decoction of temperate aperient simples rendered laxative by a due proportion of rhubarb. The sediment in the urine after the third week was of a pale red or lateritious hue. I purposed to have given the patient some of the bark in the intermission of the 14th day; but he would neither take that nor any thing that had a disagreeable taste, during the fever. The only medicines that were administered in this case before the fourth week, exclusive of proper drinks, and light nourishment, were purgatives, and white wine; the last was given both simple, and impregnated with a roasted lemon, and a little saffron.

R E M A R K S.

142. THIS case during the first three weeks, assumed the form of a continued double tertian, or rather a triple quartan ; in the fourth week it personated a continued simple tertian, and in the fifth week it resembled a continued simple quartan ; by which, and the genius of the preceding paroxysms, it appeared that this disease properly belonged to the quartan tribe.

143. THE antecedent slow indisposition, with a latent fever, which preceded the continued triple quartan, was both bilious, and rheumatic, and was probably attended by an accumulation of dense black bile in the gall bladder, and large biliary canals, and the duodenum ; which should seem probable from the following instance. George Dixon, wright, aged forty-seven, and of a robust constitution, in the beginning of August, 1759, was affected with the same slow bilious indisposition which preceded the manifest bilious fever in the two preceding cases. He was first blooded to the
amount

amount of eight ounces, and next day took a full dose of a decoction of rhubarb, fen-na, and some aniseed, with a few grains of salt of wormwood ; which operated pretty sharply. The first stools were somewhat bilious, and the last consisted chiefly of a dense black bilious humour resembling tar. On the three following days the party was troubled with a tenesmus and gripes, occasioned partly by taking cold, for he kept all along at work. These symptoms were carried off by a moderate dose of rhubarb combined with three grains of the vitrum antimonii ceratum ; and an anodyne diaphoretic draught taken at bed-time after its operation ; upon which he recovered his complexion and appetite, his thirst and the oppression at the præcordia ceased, and he became healthy and alert.

144. THE oppression and anxiety at the præcordia in Cooper's case was probably in a great measure rheumatic, for the loinach abated as the anxiety increased in the beginning of the disease. I have met with a case of an inveterate quartan in a sailor aged about fifty, in which the quartan,
when

when suppressed by the bark, was always succeeded by an ischiatic rheumatism, and lumbago, with some hypochondriac symptoms, which always ceased on the return of the quartan. The morbid humours which give rise to miliary pustules, and other cutaneous eruptions, which humours are either scorbutic, or rheumatic, or infectious, generally occasion a great oppression at the præcordia, before they are expelled to the surface of the body, or are concocted, and carried off by the emunctories; and more or less of these morbid humours generally take place in all obstinate or dangerous fevers.

145. HYPOSTATIC urine is not so common in the torrid zone, as in a cold or temperate atmosphere; partly, I suppose, because the heat of the external air in the former prevents, in a great measure, the saline, earthy, and oily parts of the urine from attracting each other, and separating from the aqueous portion; for in a cold atmosphere the urine never deposits any sediment, nor becomes turbid, till it becomes quite cold by standing some time in the
the

the external air; and partly because the salts in recent urine, under an ardent fever, will be more alcalized in the torrid zone than in a cold atmosphere, which will occasion the several principles in the urine to incorporate into one uniform saponaceous mass, and prevent their separation so as to form a sediment.

C A S E III.

146. ON the 8th of August, 1759, Hannah Wilkinfon, aged nineteen, of a clean and healthy personal habit, was seized with a head-ach, and great pain all over the body, with some pain and stiffness of the eyes, and a flushed countenance. Next morning her face, from being flushed, became somewhat livid, with chilliness, which soon gave place to an intense fever, with a full and rapid pulse, burning heat, which was pretty uniform all over the body, a vehement head-ach, redness of the eyes, pain in the loins, oppression at the præcordia, nausea, and vomiting of green bile; unquenchable thirst, and high coloured transparent bilious urine. The violent retching,

ing, in concurrence with the great rarefaction of the blood by the ardent fever, occasioned the bursting of a blood vessel in the fauces; whence a pretty deal of blood issued by the mouth and nose. On the second day of the fever, when I first saw the patient, the state of the disease was the same nearly as on the preceding day; the nausea and vomiting continued, with instant vomiting of things ingested; the head-ach was abated by the hæmorrhage, the white of the eyes had a light yellowish tinge, and the anxiety at the præcordia was the most urging symptom. I ordered six ounces of blood to be drawn from the arm, and directed cold spring-water acidulated with spirit of vitriol to be used by the patient for her constant drink; which soon put a stop both to the vomiting, and the hæmorrhage, and very much abated the head-ach; for the last symptom, 'tis likely, resulted chiefly from an over-repletion and distension of the vessels of the encephalon, in consequence of the great rarefaction and expansion of the blood: but the oppression at the præcordia still continued. On the morning of the third day

day ſhe took a moderate doſe of a decoction of rhubarb, fenna, tamarinds, and aniſeed, which operated in a greater meaſure than was intended; and after diſcharging much bile, there inſued a diarrhæa, which, however, was very moderate, without gripes, or any pain the bowels. On this day the ſkin became moiſt, with an abatement of the ardency of the fever, and the oppreſſion at the præcordia. The looſeneſs continued with a moiſt ſkin; the fever and the ſaid oppreſſion decreased: on the fifth day the laſt mentioned ſymptom ceaſed, and the fever remitted; and by the ſeventh the criſis was compleat. But as the diarrhæa ſtill continued, and ſeemed no longer neceſſary, and as it began to be attended by profuſe ſweats, I ordered the patient to take now and then a ſpoonful of red wine, burnt with a little cinnamon; which ſoon carried off the diarrhæa, after which the party recovered a-pace. The blood drawn off in the beginning of the fever was ſomewhat florid, and rather of a lax conſiſtence with little ſerum.

R E M A R K S.

147. THIS case is a true ardent continued bilious fever. The good effect of a soluble belly in such fevers, when they are not highly malignant, was manifest in this case. Purgatives are most serviceable in fevers of this sort, when there is a pretty equal distribution of the native heat all over, as in the said case; which was less malignant because it was not, I suppose, combined with a great proportion of a virulent rheumatic humour, which is most apt to increase the obstinacy and danger of fevers in persons of a more advanced age. Yet fevers that are excited purely by the vicissitudes and particular temperatures of the seasons, or even by getting cold, without the accession of infectious effluvia, are sometimes rendered malignant in youths and children, by an antecedent scorbutic, or scrophulous, or phthyical disposition, and sometimes by a recent subtile and very acrid rheum. The remarkable efficacy of the cold spring-water in the foregoing case resulted from its refrigerating, condensing, demulcent, and
effluent

effluent qualities. The livid hue of particular portions of the skin, which sometimes precedes an hæmorrhage, results not from a putrid dissolution of the blood, as some have imagined, but from an attendant chillness, and a slow motion of the blood in the minute capillaries, which generally precede an ardent fever, or a vehement paroxysm from an ebullition or fermentation of the blood, with a considerable heat and rarefaction of it; unless the lividities happen in the close of the last stage of a malignant fever; and sometimes they are occasioned by a particular dyscrasy of the blood, which is very different from a putrid state of it, as in the livid or purple measles with spitting of blood, and bloody urine; and in other cases of a like nature, in which the blood drawn from a vein is florid and of a lax consistence, generally with little serum (38.).

C A S E IV.

148. A HARD working man, aged fifty-seven, was seized, in the end of July, 1759, with an ardent quotidian remitting fever,
S attended

258 *Diseases which happened in Cleveland,*

attended by dense high coloured transparent bilious urine, pain in the loins, great anxiety at the præcordia, and a pretty large and somewhat tense pulse. He was bled to the amount of ten ounces, and the blood formed into a dense coagulum, with some whitish fizy spots at top. A purgative was administered, together with a cooling and attenuating diaphoretic mixture, and suitable drinks. On the third day the white of the eyes had a yellowish tinge, and the exacerbations began to decrease with copious sweats, and to terminate in compleat remissions; and the urine when cold became turbid and whitish: yet as the anxiety at the præcordia was still considerable, a vesicatory was applied on the inside of one thigh. On the seventh day, the urine, tho' still of a dense body and high coloured when newly made, deposited a whitish sediment, and the paroxysms began to be less vehement. On the ninth, the patient's feet began to swell; and on the eleventh day, the feet and legs were much swelled, and exceeding painful, without any redness of the skin; the acute fever terminated in a very slow or latent one,

one, without any manifest exacerbations, or remissions; the patient had some appetite, and the pain in his legs was his only complaint. In the end of the third week, the swelling of his legs and feet suddenly receded; upon which he was seized with a most vehement fever, with a slight delirium: a vesicatory was instantly applied on the inside of each thigh, and a laxative was given; and on the succeeding day, the white painful swelling of the legs returned, and the acute fever ceased. The swelling, and a very slow little fever which attended it, decreased by slow degrees, and in the space of six weeks quite ceased. We have here a remarkable instance of a good effect of blistering the lower extremities. In this case blistering the head, arms, or back, would have had, perhaps, a contrary effect. Blistering the lower extremities will, 'tis likely, be generally most necessary and successful in persons above thirty-five years of age, under fevers; who, in general, have a disposition either to the gout or sciatica. This case was partly bilious, but chiefly rheumatic and inflammatory.

C H A P. IX.

Of the Diseases which appeared in Cleveland, betwixt the Autumnal Equinox in 1759, and the Summer Solstice following; with some Observations relative to the outward Causes of Intermittents.

149. **I**N October, 1759, the weather was temperate and uniform, and in general dry; it was so also in November, exclusive of some keen frost towards the end of this month. In December and January it was remarkably variable with great transitions from a cold piercing air, to a temperate state of it with southerly winds, and *vice versa*; and there fell very little rain or snow this winter.

150. IN October, many cases occurred of obstinate scorbutic eruptions; and I met with more cases of the dry and scurfy sort than I had seen for a long time before; which discovered a prevalent scorbutic disposition. But these cutaneous diseases were critical and salutary. For in October, if
the

the weather is clear, dry, and temperate, or somewhat cold, the powers of the body become vigorous so as to be enabled, in persons of good constitutions, to concoct in some measure, and separate from the sound juices, the morbidic humour contracted in the course of the preceding summer, and those accumulated in the habit by a diminution of perspiration, from a somewhat cold temperature of the air about the equinox, consequent on a long course of warm summer weather.

151. TOWARDS the end of November, a scorbutic eruption, very much resembling the true contagious itch, began to be rise among the vulgar; but it was much more so in some places than others. In many it was preceded by pain or oppression about the pit of the stomach; or by some slight indisposition, with heaviness, and a palled appetite; or by a nausea, with retching after meals. The eruption for the most part came out all over the body, except on the face, but it chiefly affected the extremities; and in some persons it appeared only upon the arms. The pustules rarely

262 *Diseases which appeared in Cleveland,*

were so numerous as they usually are in the most obstinate species of the scorbutic itch. The reigning eruption, however, had a near affinity with that disease, from which it differed only in degree, and in being in some particular places almost epidemical among the vulgar, which the abovesaid obstinate scorbutic itch never is so far as I know. The reigning eruption generally yielded not to the sulphur ointment, which in some instances was detrimental by repelling it. It was in general most successfully treated by sea-water taken in small doses night and morning as an alterative, and continued for some time; a decoction of antiscorbutic simples, a composition of sulphur and crude antimony; or of sulphur, nitre, and cream of tartar. In some obstinate cases alcalized mercury taken with sea-water in small doses, or with the abovesaid decoction, or with lime-water impregnated with antiscorbutic simples, proved effectual, after some other alteratives had failed. The alcalized mercury most commonly proves laxative; but when it does not, the mercury generally tends to the salival glands, and if continued, a salivation

tion infues: wherefore it is proper to attend to this circumstance, in order to prevent its falivating when unnecessary, either by combining it with laxatives, or by giving it in very small doses. I have, however, met with several obstinate cases, particularly of the herpetic and scurfy sorts, that would not give way till a very gentle spitting was promoted, and continued for some time, by the alcalized mercury. The internal use of the corrosive sublimite hath a good effect in some cases of an eruptive scurvy: and when the eruption is partial, and of the herpetic or scurfy sorts, if its fomes in the blood is previously extinguished, or is inconsiderable, the solution of the corrosive sublimite well diluted, and used by way of lotion, is of singular efficacy. Its excellency as an external, in such cases, was first communicated to me by my worthy and ingenious friend Mr. Alexander Small surgeon in London. In some cases of the reigning itch-like eruption, in which the disease was more nearly related to the contagious itch, than to the most obstinate scorbutic sort, these internal remedies failed of making a compleat cure, and in

264 *Diseases which appeared in Cleveland,*

such the sulphur ointment, or antipsoric ointment impregnated with sulphur, and a small proportion of mercurial ointment, proved effectual; and in these, externals were both safer and more effectual after the exhibition of some suitable medicines internally. This disease infected such only as had a predisposition thereto; for it often affected one or two in a family without invading any other person in the same family.

152. In the aforesaid period (149.) there appeared some cases of the miliary fever, which was epidemical in the following spring. In the same period there also occurred some cases of a fever, which either resulted partly from a retention in the habit of the morbidic humour which was the source of the forementioned scorbutic eruptions (151.) or was aggravated by a predisposition to these eruptive scurvies. The prevalent symptoms in that fever were a considerable pain, or oppression, joined with a sense of uneasy weight in the lower part of the breast adjoining the pit of the stomach; generally with nausea or vomiting,

ing, pain in the loins, a head-ach, with heaviness of the eyes, and unsound slumbers: the pulse was generally quick and small; the urine dense and high coloured, depositing, when the disease was favourable, a loose sediment; and the blood was lax and florid with little serum, as it is usually in miliary fevers, especially when the morbidic humour of the eruption is influent, and cannot be separated from the sound juices, and thrown upon the skin by the powers of the body. Spontaneous sweats in the first stage of the disease were salutary. Some had only a very slight attack of this fever, and in others it was aggravated by an antecedent scorbutic, or rheumatic, or inflammatory disposition.

153. DURING the reign of these diseases, in Cleveland, in November, December, and January, a malignant spotted fever prevailed in Sunderland, as I was told; and the dysentery was rife in some places, particularly in Newcastle, among the militia there; but very few cases of the last mentioned disease appeared in Cleveland during
this

266 *Diseases which appeared in Cleveland,*

this winter. Some fevers, however, that happened mostly in January and February, discovered a tendency to an alvine flux, and were supervened by a diarrhæa with gripes, or with dry gripes, unless these symptomatic diseases were prevented by a timely exhibition of suitable cathartics, or laxatives. And the throat distemper in adults, hereafter described, which was epidemical in some towns in Cleveland in February and March, in a few instances terminated in a dysentery.

154. THE weather in February, March, and April this year, 1760, was extraordinary dry: the winds in January and February were often southerly, and in March and April they were westerly for the most part; and in all these months there were frequent and great transitions from a mild and temperate air with southerly winds, to a cold and very chill state of it, and *vice versa*. But the weather in general, in March and April, was cold, tho' there was little frost, at least in the day-time; chiefly because some snow, which lay a long time on the North, and North-east sides of the high

high lands, very much added to the chillness of the South and South-west winds in Cleveland.

155. THE vernal intermittents this year began very soon, because there were no frosts of long continuance to repress them, and postpone their appearance; and the frequent transitions, at short intervals, from an exceeding cold to a mild temperature of the air, and *vice versa*, in December, and January, were doubtless conducive towards exciting them; especially as there was a prevalent disposition to intermittents, chiefly in consequence of the preceding hot and dry summer. Wherefore the vernal intermittents began to appear about the winter solstice; and, gradually increasing in frequency in January, February, and March, they were at length, in the end of March, and beginning of April, more universal than the epidemic vernal intermittents in 1758; because few of those whom they invaded in the two preceding months had then got quite rid of the disease, and they were accompanied by many obstinate cases of the autumnal quartan; whereas the vernal
nal

268 *Diseases which appeared in Cleveland,*
nal intermittents in 1758 were in general
of short duration.

156. THE obstinacy, frequency, and universality of the vernal intermittents this year, and of the intermittents which arose in the preceding autumn, should seem to result from the following common outward causes. The state of the weather in the preceding winter, and spring, 1758, and 1759, was productive in a great measure of scorbutic and rheumatic dispositions of the body; and the blood was rendered adust, or was much vitiated, and the solids were greatly relaxed by the extraordinary dry and sultry weather in June, July, and August following: wherefore quartans were exceeding rife in August, September, and October, and of uncommon obstinacy: and as the weather, in the end of August, and in September, October, and November, was in general temperate, clear, and dry, and to appearance very salutary, 'tis obvious that the intermittents which arose in salubrious places, within that time, must have resulted chiefly from the disposition generated in the human body in the preceding winter

winter and spring, and during the three abovesaid sultry months; but chiefly from the long course of very dry and sultry weather in these months; and that their common outward exciting causes consisted chiefly in the quotidian vicissitudes in August and September; and in the transition from the abovesaid sultry summer weather to a somewhat cold or chill temperature of the air, with frequent light nocturnal frosts, which takes place sometimes before, and generally soon after the autumnal equinox. For it is not rainy weather that creates a general predisposition to intermittents, but an extraordinary hot and dry summer, especially in concurrence with the other circumstances abovementioned. The obstinacy and frequency of the vernal intermittents this year proceeded chiefly from the same causes; joined with the cold dry weather, with little frost, and the abovesaid changes of the weather, which took place in the winter and spring, during the reign of these intermittents: for such weather, with little frost, or rain, or snow, in the winter and spring, consequent on a very dry and sultry summer, is most apt to occasion

270 *Diseases which appeared in Cleveland,*

caſion an uncommon frequency of intermittents in the ſpring, eſpecially if intermittents were riſe in the preceding autumn: and as a great part of Cleveland where the aboveſaid vernal intermittents prevailed is a pretty high, and dry open land, and very ſalubrious, 'tis manifeſt that much moiſture was not neceſſary to their production.

157. BUT as the effluvia of patients under dangerous diſeaſes that are not truly infectious like the ſmall-pox, that is, that don't infect at once, without the concurrence of an acquired prediſpoſition; as ſuch effluvia, I ſay, do conſtitute an exciting cauſe of ſuch diſeaſes with regard to perſons who are very much prediſpoſed to them by their common outward cauſes, and live under one roof with the ſick, or are often within the influence of their effluvia, 'tis probable the aboveſaid epidemic vernal intermittents were excited in ſeveral perſons partly by the effluvia of others who laboured under the diſeaſe; in which caſe the ſaid effluvia were properly an auxiliary exciting cauſe, which in other circumſtances,

cumstances, or in concurrence with the usual general predisposition in spring, when intermittents are unfrequent, would have been quite inadequate to the production of the disease.

158. THE vapours of marshes, in a low country, are both a powerful auxiliary, and aggravating cause of intermittents; especially in warm drougthy weather, when such marshes are reduced to a thick putrid slime, which exhales the most noxious effluvia. Wherefore when the general predisposition to intermittents, from their common outward causes, is not sufficient to occasion a frequency of intermittents in salubrious places, they may nevertheless be frequent in places lying within the influence of the vapours of marshes, and low moist ground; especially of such as are brakish, and are seldom wholly washed by the sea; and after becoming frequent in such places, they may sometimes be propagated by the effluvia of the sick, among the inhabitants of some neighbouring places, where the other outward causes are not quite sufficient to generate the disease.

272 *Diseases which appeared in Cleveland,*

Intermittents, 'tis likely, are sometimes excited in the western part of Cleveland by that cause; for the banks of the river Taese, betwixt Stockton and the sea, on the west side of Cleveland, are low, oozy, and marshy, and productive of obstinate agues; and those parts in Cleveland that are most remote from the Taese are least subject to agues. But as agues are sometimes rise in the higher parts of Cleveland towards the sea, above five or six miles distant from the marshy and oozy ground by the river Taese, in spring and autumn, when westerly winds prevail which blow in a direct line from the low banks of the Taese to such places, 'tis probable that the influence of the vapours of marshes, in this circumstance doth reach much farther than is commonly supposed. But I have observed that the vapours of marshes in the West Indies have little or no bad effect on persons living on dry and somewhat high ground at two or three miles to leeward of them, because the diurnal, or nocturnal wind, which carries the vapours to such places, is supplanted every twenty-four hours by a breeze from an opposite quarter.

The inhabitants of the dales, or high valleys in Cleveland are little subject to intermittents for the reasons mentioned in the foregoing (86.); and likewise because the vapours from the banks of the Taese are interrupted by interposing mountains: and the exhalations from black peat-mosses are not productive of intermittents, at least in high moors, under a clear sharp air.

159. THE inhabitants of great towns, that are not within the influence of extensive marshes, are less subject to intermittents, than those of salubrious country villages; which probably results from the following causes. In great towns the lower air is almost wholly free from the cold humid exhalations of vegetables, and from a cold moist vapour which abundantly perspires from the earth, where it is not paved as in great towns. The fires in each house, in a populous town, do in a great measure correct the air's moisture, by causing it to ascend quickly to an higher region of the atmosphere; and as some fire is kept in at nights in each house, and the night air is less moist, it is there-

T

fore

274 *Diseases which appeared in Cleveland,*

fore also less chill, in a great town, than in a small village; and consequently the difference betwixt the temperatures of the air in the days and nights, one of the exciting causes of intermittents, is considerably less in the former, than in the latter. Yet as intermittents very rarely prove fatal, or of any bad consequence in salubrious villages in Great Britain; and as they purge the body of scorbutic and rheumatic humours, they are of singular service to country people, whose diet, and manner of life, as well as the cold humidity of the country air, render them very obnoxious to obstinate scorbutic, and rheumatic disorders. It is partly owing to this circumstance, as well as to temperance, and the freshness, and purity of the country air, which is not tainted with abundance of perspired matter, and other excrementitious effluvia, as in populous towns, that a much greater proportion of the inhabitants of salubrious farms and villages live to a great age, than those of great towns; at least with regard to the country women, who commonly outlive their husbands, who in general work very hard,
and

and are often exposed to the injuries of the weather, and are much more guilty of intemperance than the women. Young children are exceeding healthy in pure salubrious country air; where in general, unless the small-pox happens to be uncommonly fatal, scarce a sixth part of those who are born die under two years of age. The unhealthiness of children, and the great fatality of the diseases to which they are most obnoxious in some great towns, are commonly imputed to the smoke of coal fires: this opinion, however, is liable to some objections; and 'tis obvious that there are other material causes of that great disparity in the unhealthiness of children in populous towns, and country villages, depending chiefly on the manner of life of the parents, and partly on the air, exclusive of the effect of smoke.

160. THE obstinate quartans which continued throughout the winter, and during all or most of the spring this year, were exceeding variable, particularly in the spring during the reign of the vernal intermittents. They often changed from a

276 *Diseases which appeared in Cleveland,*

simple to a double quartan, and sometimes they personated a quotidian, or a simple tertian intermittent; and in a few instances they were at times quite irregular. The vernal intermittents often began in the form of a continued or spurious tertian; they sometimes changed from a simple to a double tertian, which in the decrease of the disease resumed the form of a simple tertian; and the double tertian for the most part at length became simple. These intermittents were exceeding obstinate; and tho' the bark, given in a pretty fair intermission, repressed them, yet they usually recurred several times after being thus suppressed, and were seldom at once carried intirely off by the bark. Yet some patients were cured by spirit of sal ammoniac diluted with cold spring-water; and in a few instances this medicine accomplished a cure after the bark had failed. Many cases of these intermittents were attended by a cough, and some consumptions were induced by the catarrhal quartan.

161. THE miliary fever incident to children, and its attendant squincy, were epidemical

demical in the eastern parts of Cleveland in February and March. These diseases, which are described in the sequel, travelled by a successive progress from one place to another, or appeared in different places at different times; having had no observable dependence on the antecedent and concomitant weather, only that they were more frequent, and spread with greater rapidity in the spring and autumn, than in the intermediate seasons. In the abovesaid months (161.) an ophthalmia, with a soreness of the eyelids, and a copious discharge of sharp rheum, was very rife among the inhabitants of some places that then were exempt from the abovesaid epidemic diseases; and several cases occurred of a stranguary, and some of an ischury from a fluxion of humours upon the neck of the bladder. This last disease, which was most incident to women, was most successfully treated by bleeding, cooling attenuants, demulcents, laxatives, and blistering the inside of one thigh: the dysentery was also rife in some places, in February and March, this year, 1760.

278 *Diseases which appeared in Cleveland,*

162. IN February, this year, I met with two cases of a carbuncle of an uncommon size and virulence. The one, of a large size, arose in the umbilical region, mostly to the left of the umbilicus, in a peasant aged about sixty. It was little prominent outwardly, but its base was so large as to compress the small intestines, and impede, in some measure, the transmission of their contents. The top of the tumour was of a dark red, with vehement pain, and a great degree of heat; and it was attended by an intense fever. The belly was kept open with emolients, and lenient laxatives; and the suppuration of the tumour was forwarded by an emolient cataplasm. The tumour suppurated only at its top, and contained a thick tenacious pus, like the cat-boil, which is a species of the carbuncle: the skin burst in several places, in the suppurated portion, discovering the viscid subjacent pus, which was too dense and viscid to be pressed out; and the ulcer had the appearance of a lacerated wound. The digestion of the pus was encouraged; it became daily thinner or less tenacious, and more laudable, and the discharge increased

creased in proportion; the fever gradually decreased, and the patient, in some time, recovered his former health. The other patient was a stout peasant, aged about forty; the carbuncle, about the size of a large apple, arose in the arm, a little above the cubit; the attendant fever was ardent, with a dense and somewhat fizy blood, and the patient, before the tumour suppurated, was seemingly in great danger. This carbuncle was succeeded by a very large painful tumour in the inferior and outward portion of one thigh, with a continued slow fever with great thirst. This tumour, which changed not the colour of the skin, was dispersed; upon which the morbidic humour invaded the lungs, and induced a fatal pulmonary consumption, which was supervened, in its last stage, by a profuse hæmorrhage from the lungs.

163. IN February, horses were invaded by the most epidemic cold, or catarrh, that has ever happened in the remembrance of the oldest men living. This disease began in different parts of Cleveland at the same time; and young horses that were con-

280 *Diseases which happened in Cleveland,*
stantly kept in the fields, and were seemingly secure from the influence of the effluvia of affected horses, were also invaded thereby. In the space of one week it became universal in this part of the country; and very few horses, except some old ones, escaped it: and as it seldom continued above eight or ten days, its epidemic progress was finished in a short time; exclusive of some horses that relapsed on taking cold. It differed in many horses in point of vehemence, but was in all nearly uniform as to the symptoms and genius of the disease; as those diseases generally are, that are truly infectious. It was generally most vehement in horses that were kept in stables on dry food, and were not, at times, turned out to the field *.

164. WHILE

* This epidemic catarrh among horses began with a vehement cough, which was soon supervened by a most profuse pituitous discharge from the nostrils; which, in the height of the disease, had a purulent aspect. It was generally attended by more or less of a fever, and in some instances with some degree of a peripneumony, or with an inflammation of some of the pulmonary glands; and when these suppurated, the disease personated an acute consumption. But in the Duchy of Cleveland it was rarely in a great measure inflammatory, at least among the horses of farmers: for these were suffered to run
out,

164. WHILE the miliary fever, and throat distemper, were epidemical in the eastern parts of Cleveland, there appeared in

out, at least in the day-time, and were kept temperate in their bodies, and preserved from an inflammatory disposition by grass. Of these horses scarce one in four hundred died of the distemper, tho' they were not blooded, and tho' very few of them got any sort of medicine. Yet one moderate bleeding was generally proper for horses that were kept in stables, and were little exercised, especially if the disease was vehement, with some difficulty in breathing. The blood of most horses generally has, in a coagulated state, a thick fizy or whitish crust at top; but that of some horses that were blooded in this distemper was blackish, and somewhat dense, or viscid, without any fizy crust. Flowers of sulphur given in a mesh of bran was by far the most serviceable medicine in this disease, which was generally attended with costiveness; and this indeed was all that was generally necessary throughout the course of the distemper. In the beginning of it the sulphur was commonly given in a pretty large proportion, so as to prove a little laxative, and in the sequel of the disease it was administered in less doses so as only to keep the body a little soluble. But in cases that were in a great measure inflammatory with great thirst, it might be of advantage to mix some cream of tartar, or a small proportion of nitre, with the abovesaid mesh: the sulphur, exclusive of its laxative and effluent qualities, being an excellent pectoral and deobstruent, and a sweetner of the juices, was well adapted to the abovesaid epidemic catarrh, in its several stages. I shall here observe, by the by, that nitre, which is become a fashionable medicine among farriers, is by them generally overdosed, so as to be often, in some measure, prejudicial
by

282 *Diseases which appeared in Cleveland,*

in that tract of the country but few cases of intermittents: but as soon as the above-said distempers began to decline towards the end of March, intermittents became frequent, and in the beginning of April were extraordinary rife. It was remarkable that in April the recent intermittents, as well as those of longer standing, were mostly attended by more or less of a wandering rheumatism, which most commonly invades the loins, and the lower extremities;

by its stimulus. Some horses, but few, were subject to returns of the disease on getting cold; and some old horses who had been invaded by the same species of cold about ten years before, when it was rife in the country, escaped this last attack of it. Tho' the present and antecedent weather seemed likely to create a predisposition to this epidemic cold, yet 'tis remarkable that the weather neither immediately before the onset of the disease, nor after it began, discovered any extraordinary exciting cause adequate to such a disease. In these particulars it resembled the kink-cough or whooping-cough peculiar to the human species, and like this was doubtless in a great measure infectious. Its swift epidemic progress must have been promoted either by some occult cause in the air, or by the effluvia of distempered horses; for if the horses had previously acquired a great disposition to this disease, 'tis probable that air, impregnated with a very small portion of the effluvia of such as were distempered, would prove an exciting cause of it even after being transported a considerable way by the winds.

and

and sometimes there was a fixed pain in one side, behind the spurious ribs; and these pains generally returned and intermitted with the paroxysms. Youths, and even children, under intermittents, were also affected with this periodical rheumatism; and some of these had a swelling of the face and hands under each accession of the rheumatism. Some cases of idiopathic inflammatory, and wandering rheumatisms now also occurred: and in two or three instances an intermittent terminated in a rheumatism, which in five or six days was supplanted by the intermittent. Colds were also rife in April from the foresaid changes of the weather (154.).

165. 'Tis probable the rheumatic pains, with swelling, which attended some intermittents, particularly in children and youths, in April, resulted not altogether from the rheumatic disposition which was then in some measure prevalent, but, perhaps, chiefly from the morbidic humour peculiar to the rash-fever, or from a disposition to that distemper, which in many young persons was attended by more or
less

824 *Diseases which appeared in Cleveland, &c.*
less of a swelling ; and the throat distemper in adults often began by a considerable pain all over the body.

166. SOME sultry days in the forepart of May were succeeded by cold and dry weather. In the beginning of June the winds were brisk, dry, and unseasonably cold for the space of six days ; the following week was rainy and rather warm ; and these rains were succeeded by some warm and dry weather. These temperatures and changes of the weather gave rise to several obstinate colds ; and to some cases of a peripneumony, and pleuroperipneumony, mostly in the end of June, and beginning of July, which, however, in general, were resolved by moderate bleeding. In the preceding winter and spring some cases arose of an obstinate latent little fever, with a dryness of the tongue and fauces, both with, and without uncommon thirst, which were aggravated in May and June, and were occasioned chiefly by an influent land-scurvy, from herpetic and erysipelatous humours.

A Narrative of the epidemic Throat Distemper, and miliary Fever, as they appeared in the Duchy of Cleveland, in 1760.

1. **I**N September and October, 1759, some adults in Whitby, and the eastern parts in Cleveland, were seized with the throat distemper; and some children were attacked by a miliary fever, with a forenefs in the mouth or throat. In February and March following, the first of these diseases was epidemical among adults, and the latter among children under eight years of age, in the villages in Cleveland to the eastward of Guisbrough; and youths betwixt seven and fifteen years of age were sometimes invaded with the throat distemper incident to adults, and sometimes by a complication of that disease and the miliary fever; and several of these had the miliary fever with only a little forenefs in the throat, with little or no internal swelling, as it commonly appeared in children.

2. **T**HE epidemic throat distemper, or squincy, incident to adults, was generally preceded,

286 *Of the epidemic Throat Distemper,*

preceded, and sometimes attended in its first stage by chilliness; and frequently by fixed or wandering pains, or a considerable pain or soreness in the exterior parts of the body all over. Some share of the morbid humour which gave rise to these pains was determined to the glands in the fauces, upon which the squincy began, and with it a spitting of viscid phlegm. As this disease, and the excretion of phlegm increased, the abovesaid pains and chilliness diminished; and by the end of the second or third day, the two last mentioned symptoms ceased, and the squincy was considerable, with great difficulty, or an almost total obstruction of deglutition, and a manifest fever. In some patients, however, the chilliness, or rigor, was of short duration; and some adults were first seized with a fixed pain in the nape or sides of the neck, whence it moved forward, and fixed in the pharynx, or in some of the glands in the fauces. Those adults who had a considerable pain all over, in the skin, or in the tendinous expansions of the exterior muscles, with, or without sickness, or anxiety at the præcordia, had a tendency to the miliary eruption,

eruption, tho' it appeared not. Two or three patients had, in the beginning of May, that outward rheumatic affection, with a little fever, without any, or with very little soreness in throat; and in the last mentioned month, on the commencing of warm weather, some adults were invaded by the miliary fever, which was then far more gentle than it had been in the preceding spring, or was in the succeeding autumn: in the last mentioned season also, some adults had, at the onset of the throat distemper, a miliary eruption of short duration.

3. THE squincy speedily increased, and arrived at its state or height, on the fourth or fifth day from its onset, or on the seventh at farthest, but in general on the fifth. Then it began to decrease, with profuse spitting of phlegm, which in some instances was streaked with blood, and the swelling and inflammation in the fauces soon dispersed. But in several patients, the tumours in the pharynx and the amygdalæ suppurated at top, as in the carbuncle or cat-boil, and discharged some thick,
2 white,

288 *Of the epidemic Throat Distemper,*

white, viscid pus, which, together with the phlegm that was spit out with it, was sometimes also streaked with blood; and the decrease of the disease was slow, because the suppuration of these boils was at first only partial, and the viscosity of the pus retarded its egress. In a few instances the tumour in the pharynx suppurated completely, and burst on the fifth or sixth day; upon which the patient was instantly relieved: The disease, in this case, having personated the common inflammatory, or phlegmonous squincy. In a few cases, mostly in young stout men, the disease very much resembled the epidemic catarrh incident to horses, which reigned in the forepart of spring this year. In these, a discharge from the nostrils commenced at the onset of the squincy, or soon after; which at first was thin and serous, and towards the height of the disease, on the third, fourth, or fifth day, it became thick and purulent; and some thick pus was, at the same time, discharged from the pharynx and tonsils. This species, which was very inflammatory, with dense sily blood, was a more frequent occurrence in the succeeding

ing

ing autumn than in the spring. A cough sometimes attended the squincy, but it was rarely vehement. Indeed a violent cough could not take place in this disease, with a considerable swelling and inflammation in the fauces, and a copious discharge of phlegm; since the first vehement coughing fit, in such a state, would instantly suffocate the patient. Tho' the voice was commonly much altered and weak, yet respiration in general was pretty free, or but little affected, in this distemper. Some convalescents relapsed on taking cold; but the second attack was generally slight; and relapses from cold were more frequent in spring than in the following autumn. The squincy oftener terminated by dispersion, and was commonly less vehement in women than men.

4. THE parts affected in adults, many youths, and some children under the epidemic squincy, were the following, *viz.* The uvula, the velum pendulum, and its anterior and posterior arched columns, the tonsils, and the internal glandular coat of the pharynx. The tongue, in some vehement

U

cases,

cases, was much swelled, chiefly at its basis; and in one that proved fatal its point projected beyond the teeth. Both sides of the fauces were sometimes alike swelled, and inflamed, but one side was commonly somewhat more so than the other. The tonsils, and the fleshy columns which embrace them, were often much tumified and of a dark red; but the swelling which gave most uneasiness, particularly in swallowing, and very much impeded, or totally obstructed deglutition, was seated in the internal glandular coat of the pharynx, immediately under, and somewhat behind the tonsils; and this tumour, when pretty large, was perceptible to the touch, and sometimes a little prominent outwards, under the lower, or outward angle of the lower jaw; and sometimes there was one in each side of the pharynx; but one of them was generally larger and more apparent outwards than the other. The inward tumours under the external angles of the lower jaw were sometimes, however, seemingly occasioned by a considerable swelling of the amygdalæ or tonsils; and in some instances by an inflammation of the maxillary

illary glands: but the parotid glands were very seldom much affected in this disease. In some adults the basis of the tongue was so much swelled as to occasion, in concurrence with a considerable swelling and relaxation of the velum pendulum and uvula, a great difficulty both in swallowing and ejecting phlegm, and in some measure too in breathing, the nostrils being at the same time partly obstructed. In some cases, the difficulty in swallowing was chiefly occasioned by a great relaxation of the uvula and velum pendulum which rested on the basis of the tongue; in which case some share of the liquids the patient attempted to swallow returned by the nostrils. When the squincy was vehement, with a considerable swelling of the glands in the fauces, and of the tongue, the face was somewhat bloated, from the great veins being in some measure compressed: and in some the squincy was attended by an outward swelling of one side of the face, and chaps, or of both. Some patients had an outward swelling, with little or no squincy, and deglutition was free; and some children, and youths under the miliary

fever, had a like outward swelling. Some adults had only an angry redness, and soreness, or an erysipelatous inflammation in the fauces, with little or no swelling; and others had a like inflammation of the villous coat of the mouth and tongue, which sometimes also affected the internal membrane of the nostrils. Several adults had only a very slight attack of this distemper, resembling a sore throat from cold, with little or no attendant fever. Indeed the throat distemper in adults was seldom attended by an intense fever, particularly when the disease terminated by dispersion; nor was it supervened by aphthæ in any case that fell under my observation.

5. THE squincy, in some cases which terminated by dispersion, was succeeded by fixed or wandering pains, or by a weakness in the knees, or a numbness and stiffness of the legs; which were of short continuance, and easily carried off by suitable remedies; or it induced a bad habit of body, or terminated in, or was supervened and supplanted by a diarrhæa with gripes, or a dysentery. In a few instances the

morbific humour invaded not the throat, but was determined by a spurious or preternatural crisis to some other internal part; and in different parts it personated different inflammatory diseases; or it was diffused throughout the habit, and gave rise to a bad habit of body, with a lurking fever or febricula, attended by some malignant symptoms. For the squincy and outward swellings, in this epidemic infectious distemper, were truly critical; and which, with the attendant spitting of phlegm, or consequent suppuration, were analogous to the variolous eruption, which in adults, when copious, is attended by an abundant discharge of phlegm.

6. THE blood of adults, under the throat distemper, when it terminated by dispersion, with profuse spitting of phlegm, was commonly little or nothing fizy; but in those cases that terminated in suppuration, the coagulum, at least in strong men, had generally a tough whitish fizy crust at top. It is remarkable that tho' a fizy state of the blood and serum is usually more prevalent in spring than in autumn, yet a termina-

tion of the epidemic squincy in suppuration, and an attendant sizziness of the blood, were more frequent occurrences in the succeeding autumn, than in spring. But when the squincy was attended by an ardent miliary fever, the blood was generally florid and undense.

7. THE epidemic miliary fever, incident to children and youths, usually began, and proceeded in the following manner. Some degree of chilliness, or a rigor, a common forerunner of the disease; which was sometimes also preceded, and attended in its first stage, or before the eruption of the rash, by a sense of pain or soreness all over, or by pain in the loins, and shooting pains, chiefly in the lower extremities: some had a swelling of the face, and of the extremities, immediately before, and sometimes after, the appearance of the eruption; and several complained of a head-ach, and of sickness, or oppression at the pit of the stomach. On the commencing of the eruptive fever some of these symptoms increased, particularly the pain in the head and loins, and the oppression at the præcordia, which

which were sometimes attended by a nausea and vomiting. The rash generally appeared soon after the onset of the fever, or before the end of the second day thereof; and when it was wholly out, all or most of the abovementioned symptoms either ceased or abated; but the head-ach often continued, and was now sometimes aggravated, especially when attended by an inflammatory redness of the eyes, which in that case could not bear the light. The fever, after the coming out of the rash, increased, and was then frequently ardent, with burning heat, and a rapid pulse; at least under the exacerbations, which were nocturnal; and the ardency of the fever was greatest under a copious eruption, particularly when it was confluent, so as to occasion an almost uniform redness, or some degree of an erysipelatous inflammation of the skin. A little soreness in the throat, such as usually supervenes the eruption of the small-pox, commonly began with, and accompanied the fever, at least during its first stage; which in children was seldom attended by inward swelling, so as to impede deglutition, or render it dif-

296 *Of the epidemic Throat Distemper,*

ficult or very painful ; and sometimes that foreness in the throat ceased on the total eruption of the rash, or on the commencing of an outward tumour under the lower angle of the lower jaw, in one side or both. An excretion of ropy phlegm from the fauces sometimes began with, and attended, the last-mentioned symptom. The tongue was white, which shewed a tendency to the thrush ; and towards the height of the disease, or in the second fever, it became parched, and sometimes of a brownish or blackish hue, and the palate was much furred. The patient was costive, and his thirst was great ; but if the foreness in the throat was considerable, he was afraid to drink. The urine was pretty high coloured, and that made in the remissions commonly suspended a dense cloud, or deposited a loose sediment ; but if the fever was vehement, with a dry parched skin, and without any distinct abatements or remissions, the urine was high coloured and transparent, without either cloud or sediment. The skin was often moist, at least in the abatements when the rash was distinct. The eruption commonly disappeared, and the disease began

gan to decrease on the fifth or seventh day from its onset; and if mild, it then quite ceased, and the urine had a compact white sediment, and became more pale; provided the fever was not produced beyond its natural crisis by the supervention of inflammatory tumours in the chaps or elsewhere, or that the rash-fever was not succeeded by such tumours, which necessarily induced an inflammatory or suppuratory secondary fever; or that the inflammation in the mouth or throat did not terminate in ulcers. In four or five days after the natural crisis of the miliary fever, that is, betwixt the ninth and thirteenth days, the scarf-skin began to peel off in cases that were attended by a copious rash, and that of the hands and feet sometimes came off almost intire; and the separation of the scarf-skin was neither prevented nor retarded by a secondary inflammatory fever, for partial inflammations.

8. Tho' the soreness in the throat, which often happened in this fever, was commonly slight and of short duration; yet in several instances, particularly in youths
above

298 *Of the epidemic Throat Distemper,*

above seven years, the miliary fever was attended with the throat distemper or squincy described in the foregoing, with a copious spitting of phlegm ; and if the patient, under a complication of these two diseases, was very young, he run a great hazard of being suffocated by the phlegm, which was ejected with great difficulty when the internal swelling was considerable ; and very young patients had neither sense nor strength to hawk it up ; and vomiting, which relieves such young patients in the whooping-cough, could not take place here. Some children under seven or eight years of age had either little or no miliary eruption, or it disappeared on the second or third day ; but in lieu of it they had a dangerous squincy, with a great difficulty, or total obstruction of deglutition, and sometimes too with some difficulty in breathing, without any, or with little outward swelling before the eleventh day. The phlegm was discharged by the nostrils, in some children who had not sense to eject it by the mouth. The nostrils in some cases were stopt in the first stage of the disease, after which they discharged much pituite,

or

or viscid humour, or purulent matter, as in the epidemic cold incident to horses.

9. In several cases, after the recess of the inward soreness in the throat, without swelling, and also in some unattended by such a soreness in the throat, the miliary fever was supervened, on the fourth, fifth, or sixth day, or betwixt the ninth and fourteenth, by a tumour under the angle of the lower jaw, in one side or both which sometimes increased to a great size. These critical tumours generally dispersed of their own accord, unless the disease was very vehement. But in some dangerous cases they terminated in large impostumes, and the issue was always much worse than when these tumours dispersed; chiefly, indeed, by reason of the vehemence of the first and second fevers, under the miliary eruption, and the consequent critical inflammation in such cases; and partly from a purulent cacochymy induced in so reduced a state by such large impostumations; the consequences of which were often the following, *viz.* Excruciating wandering pains, from a copious moveable morbidic humour, chiefly

300 *Of the epidemic Throat Distemper,*
chiefly in the lower extremities, large boils, a fatal suppuration in one knee; swelling of the loins and hips, with a contraction of the body; a compleat thrush from a vehement purulent fever, with partial internal inflammation; a tabid state of the habit, with an hectic fever and cough. Indeed any large impostume in so reduced and vitiated a state of the habit must have very bad effects. The suppuration of the said tumours in the chaps and side of the neck (which cannot properly be termed parotids, because the parotid glands were rarely or never suppurated in such cases) was seldom compleat till about the end of the third week, from the onset of the miliary fever. A girl in Liverton, aged nine years, died instantly on the bursting of a large impostume in one side of the neck, on the 24th day from the onset of the miliary fever. But as this patient was previously very much reduced, her death, 'tis probable, was occasioned by a faint induced by the great and sudden discharge of pus, and the consequent relaxation of the subjacent parts; which therefore might have been prevented by pressure, in a lying attitude.

titude, or by opening the tumour before it was wholly suppurated; which indeed is always necessary to be done in tumours of this sort, to prevent an absorption of the collected pus.

10. IN some cases the miliary fever quite ceased, and the patient was seemingly well, before the outward critical tumours in the chaps made their appearance. Such cases more frequently happened in autumn, than in the preceding spring; and these were less vehement, than when the miliary fever was produced beyond its natural crisis, or supervened by these tumours. In one case the miliary eruption was partial, and soon disappeared, and afterwards recurred on the coming on of a secondary or inflammatory fever, from the accession of tumours in the chaps. Another patient who sweated profusely both in the decrease of the miliary fever, and in the beginning of the second fever, had in the first stage of the latter an eruption of phlyctænæ, or small white pustules containing a sharp ferous humour; a large tumour under the angle of the jaw was suppurated, and opened,

opened, in the end of the fourth week; and the patient was seemingly in great danger under the antecedent fevers, but recovered apace after the opening of the impostume; because in this case the secondary fever had almost quite ceased, and the patient began to have a tolerable appetite, before the outward tumour was compleatly suppurated.

11. THE most vehement cases were supervened by the thrush (*aphthæ*) in the mouth and fauces; the eyes were inflamed, and there was a throbbing, or manifest pulsation of the carotid arteries, with great internal heat and insatiable thirst, and an eager desire for cold spring-water. The thrush came on either in the height of the miliary fever, or in the course of the subsequent phlegmonous fever, or in both; the first being mostly separated before the accession of the second. In a few vehement cases the miliary eruption did not wholly disappear till the 13th day.

12. IN some cases that were somewhat less vehement, and whose issue was prosperous,

perous, an erysipelatous inflammation invaded the villous coat of the mouth, and fauces, and sometimes that of the nostrils also; and large white pustules like small-pox arose on the tongue; and tho' in this case there was no inward tumour, yet the patient suffered great pain in swallowing; and in the decrease of the disease he often called out for food and seemed hungry, yet when food was offered him he was afraid to swallow it. In one case of this sort, in a girl, aged twelve years, some of the said pustules, after bursting, degenerated into pretty large and deep ulcers in the sides of the tongue, and in the inside of the cheeks and lips. A boy aged seven years had a violent attack of the miliary fever, with distinct aphthæ; after the separation of the thrush, the tongue and the inside of the mouth and fauces were red, sore, and excoriated, the patient ejected much phlegm mixed with pus, and streaked with blood; he had an hectic fever, and was tabid; a cough supervened, and the patient died consumptive. Two children had a foreness in the throat, probably from little ulcers, and their voice was much altered, for three or
four

four weeks after the second fever had quite ceased.

13. VERY few died purely of the miliary fever, that is, before the eighth day, when attended by little or no inward swelling. In those who were carried off by that fever the rash was imperfect and fleeting, and the morbidic humour which should have been determined to the skin, or partly thereto, and partly to the fauces or chaps, tended inwards, and was thrown upon the encephalon, or the lungs, or stomach, or some other noble part, where it induced an inflammation which most probably ended, for the most part, in a fatal gangrene; and the patient died on the fourth, or fifth, or sixth day of the disease, but most commonly on the fourth. In a few cases the eruption of the rash was prevented by the dyscrasy mentioned in the foregoing (38.), which creates a dangerous disease. When the morbidic humour was determined in a great measure to the stomach, it gave rise to nausea, and great sickness, and instant vomiting of things ingested, which, in one instance, continued till the patient's strength was

was quite exhausted, which prevented the appearance of the rash, and the patient died on the sixth day.

14. A SMALL tumour appearing under the angle of the lower jaw, on each side, before the fifth day of the miliary fever, and disappearing before the eighth day, was a bad symptom; especially if the recess of the tumours were succeeded by a soreness in the throat, or by wandering shooting pains. But if the outward swelling, which supervened or succeeded the miliary fever, did not disperse till after the fourteenth day, the issue was more prosperous. The sooner the tumours in the chaps suppurated, the greater generally was the danger, and the longer was the patient in recovering, and on the contrary; provided the patient was not quite recovered of the miliary fever, before the commencing of the outward tumours with an attendant inflammatory or phlegmonous fever. A swelling of the feet supervening the secondary fever, before the twenty-eighth day of the disease, was a fatal symptom, if attended or succeeded by a soreness in the throat, with an acute fever. A

306 *Of the epidemic Throat Distemper,*

blackness of the tongue, and a black or dark coloured thick slough on the palate, from parched mucus, which happened in some vehement cases, was not a fatal symptom, provided the velum pendulum, and the fleshy columns appeared red; especially if there was an outward tumour in one of the chaps, or in both *. Those patients who had a deafness under the first or second fever, had a purulent discharge from the auditory passage of each ear, after the crisis of the disease; and that discharge, unless restrained by suitable remedies, was sometimes of long duration. If the urine, after

* The like slough from parched black mucus, I am inclined to believe, has been by some mistaken for a black thrush, which must be a very rare occurrence, since I have not hitherto met with an instance of it. 'Tis however very easy to distinguish such parched mucus from a real thrush. For a compleat thrush covers all the inside of the mouth and the fauces; but the fauces, and the inside of the cheeks, and lips, appear red when the blackness of the tongue and palate is occasioned by parched mucus. The white thrush indeed generally becomes less white or of a brownish or livid hue, when it begins to peel off; which it does often before the death of the patient. But indeed it matters little what colour the white thrush assumes before death; for that thrush when compleat, and uniform, or confluent, at least on the palate and fauces, is always a fatal symptom in ardent fevers, as far as I have yet observed.

suspend-

suspending a dense cloud, or depositing a loose sediment, became thin and transparent, or of a leaden hue, or had a thin cloud at top, the event was most likely to be unprosperous. A moderate diarrhæa was salutary, especially if it came on after the fourth day. A moist skin under the miliary fever was a favourable symptom, and on the contrary. A purulent discharge from the ears, or nostrils, or from both, was an almost certain sign of recovery; indeed that discharge seldom began in cases attended or preceded by the miliary fever, till after the height of the disease. Some children, troubled with worms under this disease, had the globes of the eyes turned upwards a little, by a spasm of the elevatores muscles.

15. THE throat distemper, and the miliary fever were epidemical in the greatest part of Cleveland to the eastward of Guisbro' in spring 1760; they were so likewise, at the same time, in some places to the westward of Cleveland. During the summer they invaded only a few families; and in August and September following they

308 *Of the epidemic Throat Distemper,*

became epidemical in all or most of the western parts of Cleveland; and in summer and autumn, some adults, but few, had the miliary eruption. It was remarkable that some persons in the eastern parts of Cleveland, who had escaped the throat distemper, and the miliary fever, when they were epidemical there in spring, were invaded by these diseases in the following autumn after they had got a good way to the westward of them. One adult, only, within the circle of my observation died of the throat distemper. In that case there was a considerable swelling in the fauces, which, in concurrence with the attendant phlegm, suffocated the patient on the fourth day of the disease. But timely bleeding, and blistering, and laxatives were neglected; and as I saw not the patient under that disease, scarifying was not practised. Tho' the miliary fever, with its attendant and consequent inflammations, proved fatal in a few families, and in some villages more so than in others, yet upon the whole scarce one patient in thirty died thereof in the duchy of Cleveland.

16. THE throat distemper incident to adults did apparently result from the same species of infection, or morbidic humour, which gave rise to the miliary fever in children and youths. But the resistance at the surface of the body being greater, and the skin being more rigid in adults, than in youths and children, the first had rarely any miliary eruption; but in lieu of it the internal swelling in the fauces was attended by a profuse spitting of phlegm, and was in general far greater in adults than in children under the miliary fever. In children, however, the fomes of the disease was seemingly more copious than in adults; for many of the last had only a very gentle attack of the disease; and the miliary fever in children was often succeeded by considerable outward swellings in the chaps, and sides of the neck; and a considerable cacochymy was in these sometimes occasioned by the distemper. It was, however, remarkable that a young man, aged about twenty, living in Marfk, was attacked by an ardent miliary fever in autumn, when it was epidemic in that town among children and youths, tho' he had undergone the

310 *Of the epidemic Throat Distemper,*

throat distemper in the preceding spring. But in this case the constitutional fomes of the disease, perhaps, was not wholly exhausted by the throat distemper; the remains of which might have rendered him obnoxious to the miliary fever, in concurrence with some peculiar predisposition to the last-mentioned disease.

17. THE abovesaid distempers, like others that are truly infectious, had little or no dependence on the weather, as before observed (161.). They were, perhaps, first generated by a particular combination of noxious vapours, or some extraordinary exhalation from the earth in some particular place, or by some such occult cause in the air; probably in concurrence with an uncommon predisposition of the body thereto, acquired by certain temperatures and changes of the weather, in the course of one, two, or more seasons: and being thus formed, they afterwards, I suppose, propagated chiefly by infection: upon the whole, it is obvious that the epidemic miliary fever differs in many particulars from the
measles,

measles, to which it can scarce be said to have any relation, only so far as they are both eruptive diseases of the miliary kind, and both infectious.

*The Cure of the epidemic Throat Distemper,
and miliary Fever.*

18. **T**HE remedies most serviceable in such cases of the throat distemper as required artificial aid were the following, viz. bleeding, lenient laxatives, vesicatories, cooling diluents, and mild cooling, or temperate, attenuating diaphoretics, scarification, the potential cautery, the silver canula.

19. IN vehement cases of the epidemic squincy, in which the blood had an uniform whitish fizy crust at top, it was always proper, if the patient was stout and plethoric, to bleed two or three times, to the amount of betwixt eight and twelve ounces each time: for, without this precaution, there was a danger of suffocation from a speedy increase of the swellings in

312 *The Cure of the Throat Distemper,*

the fauces, which were checked in a great measure by moderate bleeding, without retarding the suppuration, if there was a tendency thereto, or diminishing the excretion of phlegm; which was rendered less viscid in consequence of bleeding, and therefore was more easily ejected. But if too much blood was drawn off, the suppuration was retarded, but not prevented, the excretion of phlegm was diminished, the disease, by consequence, was protracted, the crisis was less perfect, and the patient was a long time in recovering. Several patients, however, under pretty vehement cases, recovered without the aid of bleeding, or any other medical resource; wherefore that evacuation was not always absolutely necessary, even in pretty vehement cases; particularly when the squincy was of the inflammatory oedematous sort, which seldom terminated in suppuration, but dispersed with profuse spitting of phlegm. Yet as a judicious use of bleeding had no bad effect, and as the omission of it would doubtless, in some cases, have been of fatal consequence, it would be very imprudent to neglect it, at least in stout ple-

thoric adults: The quantity that was necessary to be drawn off was indicated chiefly by the state of the blood: if what was first drawn off had only some whitish or bluish fizy spots at top of the coagulum, as usually happened in cases that terminated by dispersion, it was rarely necessary or proper to exceed one or two moderate bleedings.

20. It was often proper to draw a few ounces of blood from youths under the miliary fever, particularly when it was attended by swellings in the fauces; and the rather if the fever was exceeding ardent, and attended with an inflammatory redness of the eyes, and a vehement head-ach; notwithstanding the blood in the miliary fever was generally florid and unfizy. In the secondary fever too, with inflammatory tumours in the chaps, and sides of the neck, bleeding was sometimes necessary; particularly when that fever was ardent, with great internal heat, shooting pains in the extremities, and a tendency to aphthæ. But the use of the lancet was seldom necessary for young children under the miliary

314 *The Cure of the Throat Distemper,*

liary fever: the application of a couple of leeches on the sides of the neck, or on the thighs, was sufficient in such young patients under vehement cases of that disease. The notion which some practitioners entertain, that bleeding is detrimental in eruptive fevers, is without foundation, except when the fever is of the low nervous or hypochondriac sort, and the patient is naturally of a puny habit of body. An eruption which nature strives to bring about, is sometimes prevented, or retarded, or rendered incomplete, by a too vehement commotion of the blood, and an overfullness of the vessels, or an ardent fever, with a rapid pulse, and great rarefaction of the blood. These symptoms are most speedily and effectually abated, and the eruption is promoted, by drawing off a suitable quantity of blood, and administering cold acidulated spring-water; as I have experienced in several cases both of the small-pox and the epidemic miliary fever. The vomiting which often attends such cases, while the eruption is retained, is also most successfully restrained by the same procedure. In patients who, immediately before

fore the onset of the disease, were strong, healthy, and florid, neither a backwardness, or incompleatness of the eruption can in any ways be supposed to result from a real debility of the powers of the body, otherwise than as they are oppressed and interrupted, or counteracted in their salutary efforts by the vehemence of the disease. In some instances the eruption is prevented or retarded by a determination of a great share of the morbidic humour to the stomach, whence more or less of an inflammatory affection of that organ, vehement vomiting, great internal heat, unquenchable thirst, and aphthæ. Now in these cases 'tis manifest that the exhibition of warm effluents must be very hurtful, since it is really adding fuel to the fire; and they encourage the tendency to a profuse hæmorrhage from the nose, which is apt to supervene such cases, unless it be prevented by a timely use of the abovesaid cold regimen.

21. WHEN the disease, at its first onset, in young adults or youths, personated a wandering rheumatism, with, or without,

316 *The Cure of the Throat Distemper,*

out, an intumescence of the affected parts, which very much interrupted the patient's rest, and occasioned a backwardness of the eruption, a diaphoretic anodine draught, composed of some drops of laudanum, and spirit of sal ammoniac, blended with a suitable diluent, procured sleep, and promoted the eruption; upon which the symptomatic rheumatism ceased. The same draught had also a good effect when the eruption was fleeting, or appeared only in some spots; provided there was no tendency to a stupor, nor any internal inflammation. Laudanum had sometimes also a good effect when a backwardness of the eruption was occasioned, or attended, by a nausea and vomiting; but in this case it was most proper to combine it with the neutral mixture of lemon juice and salt of wormwood, or with Mindererus's spirit, diluted with cold spring-water. In all these cases, if the patient was healthy and strong before the onset of the disease, it was proper to open a vein, and if he was costive to give him a laxative or a glyster, previous to the exhibition of the anodine diaphoretic draught. Both the efflu-
ent

ent and concoctive faculties are much weakened and interrupted by jaſtation and watching; theſe faculties are therefore, in ſome caſes, powerfully aſſiſted by a judicious uſe of opium.

22. As the patients both in the throat diſtemper, and the miliary fever, were generally very coſtive, eſpecially in the latter, gentle laxatives and glyſters were exceeding ſerviceable in theſe diſeaſes. Laxatives have the good effects before-mentioned (112.), and very much relieve nature, ſo as to occaſion a more free exertion of the powers of the body; wherefore they promote cutaneous eruptions, and are of ſingular ſervice both in the ſmall-pox and ardent miliary fevers, as is ſufficiently evinced by experience; notwithstanding the contrary opinion, which hath ſprung from an unjuſt theory. Beſides, it was observable in the miliary fever, that a ſpontaneous gentle looſeneſs was ſerviceable, tho' it very ſeldom happened that a diarrhæa coming on in the height or decreaſe of the diſeaſe was very ſalutary, and preventive of critical tumours in the chaps, and of
vehement

318 *The Cure of the Throat Distemper,*

vehement phlegmonous and purulent fevers, consequent on the first miliary or erysipelatous fever. When mild diaphoretics or anodines are necessary, they will be most successful after the operation of a gentle laxative.

23. NOTHING was of greater service in the throat distemper than vesicatories, especially when the blood was little or nothing fizy. Blistering the nape of the neck was very efficacious in making a revulsion from the affected glands in the fauces, and in contributing to prevent an immoderate swelling of them, which might obstruct deglutition, compress the great blood vessels, and occasion a difficulty in breathing, and very much endanger the life of the patient. That revulsion also moderated the secretion of viscid phlegm, which, when profuse, with a considerable swelling of the basis of the tongue, the velum pendulum, its arched processes, and the amygdalæ, and with great difficulty in swallowing, was apt to suffocate the patient; since in that case it was ejected with the utmost difficulty, and could not be swallowed. A
small

small blister applied on the crown of the head had a remarkable good effect when the velum pendulum and the uvula were greatly relaxed, so as to rest on the basis of the tongue, and impede deglutition.

24. BUT in an ardent miliary fever, with little or no inflammation in the mouth or throat, vesicatories seemed not to be indicated; especially as the cantharides were likely to increase the rapidity of the pulse and the ardency of the fever. But if the fever was rather low, or not very ardent, with an imperfect or fleeting miliary eruption, and a tendency to a stupor, blistering was very serviceable, after drawing off a little blood, if the patient was strong and healthy before the onset of the fever, and giving a laxative, or a glyster, if he was costive. It was so likewise when the miliary fever, tho' ardent, was attended by a considerable swelling in the fauces which very much impeded deglutition; for the abovesaid effect of the cantharides, being but of short duration, is in this case overbalanced by the advantage which the discharge

charge from the blistered portion is likely to gain.

25. IF the miliary fever is vehement, and apparently of a malignant nature, and in it first stage, or before its height, a small tumour appears outwardly under the angle of the lower jaw, in one side, or in both, blisters applied on such tumours may be conducive towards preventing their untimely recess, which in two cases was of bad consequence. But as the morbidic humour, after the fourteenth day, or in the third, or purulent fever, from impostumated tumours, consequent on vehement cases of the miliary fever, was apt to invade the lungs or bowels, or to descend to the lower extremities ; or be diffused throughout the habit: in that case, I say, blisters were most successful on being applied on the inside of the thighs ; where they most effectually drew off the morbidic humour, and prevented it from invading the noble parts, or falling upon the hip-joints, or the knees.

26. WHEN tumours arose in the chaps or side of the neck, after the eighth or fourteenth day, a blister applied on the nape of the neck very much promoted their dispersion; and a linen rag moistened with the spirit of Mindererus, warm, and often renewed, was the best discutient topic for all such critical tumours; for it is by no means a general rule, that all critical tumours are to be brought to suppuration if possible, as before observed (9.). Yet after the dispersing of such tumours, consequent on vehement cases of the miliary fever, it was proper to purge the patient two or three times, and give him the bark in the intervals of, and for some days after, purging. The most palatable form of this excellent drug for children is the tincture; which may be taken in a draught of cold spring-water, lightly sweetened. Tho' Mindererus's spirit was in some cases applied outwardly with advantage, yet keeping the throat and chaps warm with flannel was in general the best, and only necessary external remedy exclusive of blisters, in the throat distemper.

322 *The Cure of the Throat Distemper,*

27. IN that distemper, as well as in the ardent miliary fever, the most cooling diluents and attenuants, and the most cooling or temperate, attenuating diaphoretics were indicated. Simple oxymel, or syrup of lemons, diluted with simple hyssop water, with the addition of spirit of sal ammoniac in a less proportion than was sufficient to destroy the acid, was excellent both to attenuate the phlegm, and promote its discharge. The alkaline spirit not only rendered that mixture more deobstruent and diaphoretic, but was serviceable in blunting the acid which was too sharp for some patients under the squincy. The robe of elder-berries taken in the like diluent was excellent for the same purpose. But if the inflammation in the throat was attended by an ardent miliary fever, cold spring-water was a more suitable diluent than the distilled hyssop water. Churn-milk was very serviceable in this case, as well as in the acute purulent or hectic fever, which succeeded some malignant cases of the miliary fever, with impostumation. Cold spring-water, or an infusion of ground-ivy, or balm, acidulated with le-

mon juice, or verjuice; cold water impregnated with a little Rhenish wine, or with some churn-milk; weak molasses-beer, and the like, were proper drinks in the ardent miliary fever: but in cases attended with a vehement squincy cold drinks were improper. A few grains of nitre given in a draught of one of these drinks, two or three times a-day, was very serviceable in the most ardent cases of the miliary fever, with a tendency to aphthæ. But if cold drinks are observed to check the breathing sweats which often attend the miliary fever, they should be no longer persisted in, but given warm. That fever was greatly aggravated, in some children and youths, by long round worms, which were most effectually and speedily extirpated by syrup of the juice of bear's foot combined with an equal portion of the tincture of rhubarb. Two tea spoonfuls of this mixture is a competent dose for children, betwixt five and seven years of age. That dose should be repeated, night and morning, for three or four times.

28. IN several cases of the throat distemper, in adults, with a considerable inflammatory and partly oedematous swelling of the velum pendulum, its lateral arched columns, the tonsils, the inward glandular coat of the pharynx, and the basis of the tongue; in which deglutition was totally obstructed, and respiration rendered somewhat difficult, and there was the utmost danger from viscid plegm, I gave the patient instant relief by scarifying those parts with a gum-scam. That instrument is well adapted to this purpose, since its cutting blade is short, and its back thick, so as to prevent it from scarifying too deep, and from running any hazard of wounding the great vessels in scarifying the internal glandular coat of the pharynx; of which, however, there was little danger, because the sides of that coat immediately behind the amygdalæ were much swelled in vehement cases of this disease. Some blood, and a pretty deal of viscid phlegm were discharged on scarifying; and the swellings were instantly diminished, so as to relieve the patient very much, and facilitate deglutition; and the phlegm which

8 could

could not be ejected was swallowed down with the liquids which he was enabled to drink immediately after the operation. In some instances, however, tho' the patient was made to swallow after scarifying, yet the wounds soon closed up, and the swelling increased to its former pitch; which rendered it sometimes necessary to repeat the scarifying next morning. But the increase of the swelling, after being reduced by once scarifying, was prevented in a great measure by drawing some blood from the arm immediately after the operation, and applying a blister on the nape of the neck, or under the angle of the lower jaw, where the inward swelling was somewhat prominent outwards, or was perceptible to the touch; if blistering was not previously practised. In some cases where there was an impostumation in the pharynx, immediately under, and somewhat behind the tonsils, in one side or both, and in the tonsils, containing thick viscid pus, as in the cat-boil or carbuncle, the scarifying was also serviceable, even after the bursting of the phlegmons, by giving that thick tenacious pus a more free exit, and facilitating deglutition.

326 *The Cure of the Throat Distemper,*

glutition. In some patients, indeed, it was exceeding difficult to scarify those parts, by reason of a considerable swelling of the basis of the tongue, and because the patient could not much depress the lower jaw. In such cases I directed the stream with the little finger of my left hand.

29. A stout labouring man, aged twenty-five, was seized with the epidemic throat distemper, and a tumour formed immediately under, and somewhat behind the amygdalæ, in the right side, which was a little prominent outwards, under the angle of the lower jaw, and rendered deglutition difficult and painful. On the fifth day it began to extend forward, towards the larynx, and to cause some difficulty in breathing, and the patient had a dangerous exacerbation, with a proneness to faint, the preceding night, tho' he had but little fever; he had a pale dejected countenance; and had got no sleep since the onset of the disease. Wherefore, as this tumour was still hard, and discoloured not the skin, nor shewed any sign of a speedy tendency to suppurate, and was increasing so as to threaten

threaten suffocation, and was apparently seated on the outside of the pharynx, I resolved to penetrate into its exterior side; and in order thereto applied a caustic on its most prominent part, close to the angle of the jaw. As soon as the effect of the cautery was compleated, I made a crucial incision thro' the eschar, into the substance of the tumour, and cut out the eschar with a view to accelerate the suppuration of the wound; the wound bled pretty much; the farther increase of the tumour was impeded; the patient got some sound sleep in three hours after the operation; after which he recovered a pace; and the tumour gradually subsided in the course of the purulent discharge from the wound. I carried off a similar tumour, in a man, aged about fifty, by the same procedure, after bleeding, blistering, and some other remedies had been used to no purpose.

30. IN some cases in which either scarifying failed to facilitate deglutition, or the patient would not condescend to have the fauces scarified, I had recourse to a canula in order to convey liquids into the mouth

328 *The Cure of the Throat Distemper, &c.*

of the gullet, beyond the principal swellings, that they might be swallowed with more ease. The canula I made use of is the female catheter, which is well adapted to this purpose. A bladder was fitted to the handle of it; the liquid to be swallowed was put into the bladder, and after tying the mouth of the bladder, the catheter was introduced till its curved extremity touched the upper orifice of the gullet; then the liquor was suffered to run down slowly thro' the tube by raising the bladder a little occasionally. By means of this expedient some patients swallowed with ease, who could scarce swallow a drop without it, particularly when deglutition was impeded chiefly by a considerable swelling of the basis of the tongue, the amygdalæ, and uvula; and the phlegm which the patient could not spit out by reason of that swelling was washed down by the liquid he swallowed by aid of the catheter.

Obser-

Observations on the Effects of some Anthelmintics, particularly of the Great Bastard Black Hellebore, or Bear's-foot.

1. **A**S worms are very apt to be generated in the human body, and give rise to many grievous disorders, particularly in children, to whom they sometimes prove fatal, and as they always aggravate other diseases by which they happen to be supervened, there is no subject in medicine that is more worthy of consideration than that which regards the extirpation and prevention of those vermin.

2. CHILDREN in general, but chiefly those of the lower class, who live on dense farinacious and leguminous foods, milk, and cheese, are very subject to long round worms; especially in the close of autumn, and in spring, when the scorbutic disposition is most prevalent: and this vermin is generally most frequent, at these times, in sickly years; particularly when a very rainy autumn hath rendered corn unsound; or when an extraordinary hot and dry summer

summer is succeeded by a sickly winter and spring, with changeable weather and little frost.

3. ADULTS, chiefly of the lower class, and particularly women, who are sometimes infested with round worms, tho' in a far less degree than children and youths, are generally, as far as I have yet observed, most obnoxious to this vermin in the period included betwixt the vernal equinox and the summer solstice, when the digestive organs, and those in general that serve to prepare the bile, are most apt to be invaded by scorbutic and rheumatic humours, or acquire a considerable laxity and debility which occasion an inert and viscid state of the bile, and a consequent bodily disposition to the land-scurvy, and to worms. For the bile, when in a perfect salutary state, with a great degree of bitterness, has doubtless, exclusive of its other good effects, a peculiar vermifuge quality, like all other strong bitters; wherefore strong healthy men, who have rich bile, and a good digestion, are very rarely troubled with worms.

4. THO'

4. Tho' the said round worms are a different species from any that are generated out of the body, yet the eggs whence they originally proceed are most probably ingested, as is generally believed; and chiefly, I suppose, with crude vegetables, and other cold foods, and with unboiled milk and water. Hence it is that the children of the poor are most obnoxious to this vermin, and those in country farms and villages, more so than such as live in great towns; the rather as they are most liable to the abovesaid disposition to worms, with an inert, or ascescent state of the bile, and of other juices affused into the alimentary tube, or an unsalutary or crude state of these juices, from a too great proportion of a latent acid; whence a vitiated digestion, and an accumulation of mucus in in the first passage, which dispose it for affording a proper nidus for the eggs of these worms, and for lodging and nourishing such vermin.

5. CHILDREN, other circumstances being alike, are more or less subject to worms according to their habits of body, and natural

tural temperaments. Some children of a lax and gross personal habit, and fair complexion, and some of a puny habit of body with large bellies, have an extraordinary disposition to worms, so as to be seldom wholly free from them; especially in the close of autumn, and in spring: and the children of some parents, among the vulgar, are much more subject to these vermin than those of others. Children are usually most subject to long round worms betwixt two and seven years of age: and some are much infested with this vermin for one, two, or three years, after which they become strong and healthy, and little subject to worms. Among adults, women of a tender or infirm constitution, are most obnoxious to worms. Ascarides are almost as incident to adults, and chiefly to women, as to young children. Some women of a puny habit, subject to ascarides, are most troubled with them once and sometimes twice a-month, and sometimes pretty regularly about the full and change of the moon, as I have been told by some patients who were thus affected. This probably is the result of some superfluous, or recrementitious

mentitious humours which fall upon the great intestines at such times ; especially if the menstrual discharge hath quite ceased, or is only suppressed or scanty : for women are generally most subject to ascarides after an untimely ceasing, or great diminution of the menses betwixt the ages of forty and fifty, when such have often bad health.

6. THE great bastard black hellebore, or bear's-foot (*Helleboraster maximus*, Ger.) is by far the most powerful vermifuge for long round worms of any I have yet experienced. The antihelmintic virtue of this plant is well known to the vulgar in the Duchy of Cleveland, Yorkshire, who generally give it to their children when they suspect them to have worms. The decoction of about a dram of the green leaves, or about fifteen grains of the dried leaves in powder is the usual dose administered to children betwixt four and seven years of age. A full or sufficient dose generally proves more or less emetic, and often loosens the belly a little. It is usually repeated on two, and sometimes three successive mornings. The second dose has commonly a greater

greater effect than the first, and never fails to expel round worms by stool, if there be any lodged in the alimentary tube. I have often known worms expelled by the bears-foot after the most powerful of the common shop-worm-medicines had failed. These do not only sometimes fail of success, but require some days to clear some patients of round worms; but this vermin is generally extirpated by one, two, or three full doses of the bear's-foot, even when it proves not laxative, and tho' the worms expelled thereby are mostly voided alive. Nevertheless, when it loosens not the belly, a moderate rhubarb purge should be given after it.

7. THE bear's-foot, in a full dose, generally makes the patient very sick before it begins, and while it continues to vomit him; and a few are thereby disordered a little throughout the day; which makes some persons backward to use it. 'Tis notwithstanding, a quite safe medicine, for I have never known any bad effect from the internal use of it, tho' it is given, in this part of Yorkshire, to children and youths of all ages above one year, and is frequently
over-

over-dosed by the country people. It hath, in some few instances, on being greatly over-dosed, occasioned great anxiety at the præcordia, which ceased as soon as the patient began to vomit; and the vomiting induced thereby is rarely or never very vehement. In one child of a puny constitution a large dose of the bear's-foot in powder had a bad effect, as I am told; but no bad consequence from it ever happened within the circle of my observation, tho' it is often given in powder by the vulgar in Cleveland to their children.

8. THE juice of the green leaves of the bear's-foot, made into a syrup with coarse sugar is almost the only vermifuge I have used against round worms for three years past. Before pressing out the juice, I moisten the bruised leaves, which are little succulent, with some vinegar, which is a corrector of this medicine, and prevents it from inducing great sickness or much vomiting. Of this syrup I give one tea spoonful at bed-time, and one or two in the morning, on two or three successive days, to children betwixt two and six years of age; increas-
ing

ing or diminishing the dose a little according to the strength of the patient: and in this form it is very efficacious and least nauseous. But as it seldom alone proves laxative in any considerable degree, I now combine it with an equal portion of a strong tincture of rhubarb extracted with brandy, so as always to loosen the belly, and render purging after it unnecessary; and thus combined it become a still milder and less unpalatable medicine, and rarely vomits, or occasions scarce any sickness in a moderate dose; and it may be given with the greatest safety, and with far more advantage than any other vermifuge that I know, both in acute and slow fevers that are either wholly, or partly occasioned, or are aggravated by long round worms, as I have in many instances experienced. But when there is little or no fever, I sometimes add a few drops of the distilled oil of Savine to this mixture, which should be given in a greater dose, or repeated oftener, than the syrup of the juice alone. In the most dangerous cases, with a fever, proceeding wholly from round worms, this mixture is of signal service, by speedily extirpating the
said

said vermin, and relieving the patient: for, in such cases, when the disease is much advanced, and the patient in the utmost danger, he cannot bear the operation of a full dose of pilul. cocciaë combined with calomel; and other worm-medicines usually recommended in this circumstance are seldom sufficient to give him timely relief, so as to avert the impending danger. In defect of the syrup of the juice of bear's-foot, a strong decoction of the leaves of the plant may be substituted, and given with a little tincture of rhubarb, in small doses, night and morning, on three or four successive days; and in this manner it is sufficiently efficacious without vomiting, or causing scarce any manifest disorder, as I have lately experienced. It is, however, more effectual when given in a sufficient dose, so as to occasion some sickness, or vomiting: and as vomiting has a very good effect in the disorders of the first passages, with worms, incident to children, the patient should generally be vomited with the first or second dose at least of the said mixture. Gerard affirms, that the powder of the dried leaves of bear's-foot, taken in a fig

or raisin, or strewed on a piece of bread spread with honey, killeth worms in children exceedingly.

9. Tho' the bear's foot most powerfully expels long round worms, yet it is alone, if it vomits, and proves not laxative, of no great efficacy against ascarides; because, in that case, little of it will reach the great intestines. Besides, its great efficacy against round worms would seem to depend chiefly on an antipathy this vermin has thereto, which occasions them to quit their lodging and move speedily downwards, or suffer themselves to be propelled with the contents of the intestinal tube, so as to be wholly discharged by one, two, or three full doses of this vermifuge, even when the belly is little or nothing loosened thereby; for it doth not generally kill them, as before observed. A boy, aged five years, son to Mr. Thomas Dixon in Skelton, in Cleveland, being much troubled with round worms, voided some of them, only by bruising the green leaves of this plant, and smelling often to them.

10. THE decoction of the leaves of bear's-foot, and the abovesaid laxative mixture, are also excellent in asthmatic disorders from viscid phlegm, and against some obstinate hysteric and hypochondriac affections; particularly such as are periodical, and are not apt to be aggravated by whatever stimulates the fibres. In children the mixture of the syrup of the juice of bear's-foot and the tincture of rhubarb clears the alimentary tube of viscid phlegm or mucus from a vitiated digestion, and promotes the secretions, and is highly conducive towards recovering and preserving their health. I have often given it with great success to children who had bad health from a chlorotic state of the habit, or from a retention of the morbidic humour of the red gum, or other scorbutic humour in the habit, when they had no worms; and it is often very successful in carrying off slow remitting and intermitting, or erratic fevers, in children, which proceed from these causes.

11. PILULÆ COCCIÆ combined with calomel is the most powerful of the officinal worm-medicines, both against long round

worms and ascarides, provided it be given in a full dose. Gamboge is perhaps the best vermifuge against the jointed tape-worm of any yet known. A farmer in Redcar, in Cleveland, was long troubled, and greatly reduced by this worm: bear's-foot, and the common officinal anthelmintics brought off only some joints of it, but it was extirpated by two doses of gamboge. A middle aged man had violent pain at the stomach, with frequent convulsions from worms. These vermin (which in this case were probably incysted) were wholly expelled, together with bits of membranes, and a cure was accomplished, by means of a decoction of garlick in milk, after a great variety of other medicines had been administered without effect; as I was informed. A glandular tumour that forms between the coats of any portion of the alimentary tube, and suppurates, and bursts within its cavity, will make a cyst for small worms. These animals have been found incysted not only in the intestines, but also in the gullet, in dogs. When worms are incysted, mercurials should seem to be in general the most efficacious medicine against them; provided

provided the mercury be continued till the juices are in a great measure impregnated with it, even so as to affect the salival glands. But if the patient is greatly reduced, or has a scrophulous or phthifical disposition, a course of sulphurous mineral water such as that of Harrogate, or of the decoction of garlic in milk, will be a more appropriated medicine, and probably in the issue more successful than the mercury. Sea water and sulphur, taken in small doses, and long continued, will also be suitable, and efficacious in these circumstances. Worms are sometimes expelled by sulphur, after some other vermifuges, which would seem more powerful, have proved ineffectual: this medicine, so far as I have yet observed, is as good a vermifuge, at least, as *Æthiops mineral*: indeed the peculiar properties both of the sulphur and quicksilver, are in a great measure impaired by their intimate union in this compound medicine. The sulphur, however, is apt, in some adults, and chiefly in women of a lax and puny habit, to occasion intolerable griping. Spirituous liquors kill worms, wherefore such as drink freely are rarely troubled with them.

them. The use of tobacco also contributes to prevent the generation of worms.

12. SEA water is peculiarly successful in expelling long round worms out of the stomach. A woman, in Redcar, had, for some days, three of these worms of an uncommon length in her stomach. She often felt them moving in the stomach, and sometimes in the gullet; but they occasioned not, in this case, vehement vomiting, with insatiable thirst, as usually happens when such worms get into the stomach, at least in children and youths. These worms were expelled by stool, by means of a large dose of sea water, after the party had taken a dose of gamboge, which operated both by vomit and stool, and one of jalap, without effect. In this patient, indeed, 'tis probable the worms were washed into the pylorus, and thro' the intestinal tube, by the great quantity of salt and fresh waters she had drunk, that vermin being at the same time weakened, and prevented from adhering to the villous coat, by the vermifuge quality of the salt water. 'Tis probable the eminent anthelmintic virtue of the sulphurous Harrogate

gate water, which is always copiously drank, depends partly on the same principles. Indeed that mineral water seems to differ very little from sea water that is somewhat diluted, and kept in a close vessel till it smells strong. There is scarce any water that is not impregnated with some sulphur, which becomes volatile, and smells strong on keeping the water in a close vessel for some time.

13. Tho' the elixir proprietatis is incomparably less efficacious, as a worm-medicine, than the bear's-foot, yet I have often given it with good success to children who had an uncommon disposition to worms. I direct it to be given in spring-water, to the amount of between fifteen and twenty drops, two or three times a day, on an empty stomach, to children betwixt two and five years of age; and to continue the use of it for some successive days. It is very efficacious in removing a predisposition to worms, by cleansing the alimentary tube from acid or tainted slime, promoting a good appetite and digestion, purging the secretory and excretory organs of the bile,
and

and recovering this juice from an inert to a bitter saponaceous state, and resolving obstructions; and also by carrying off slow erratic fevers, and a scorbutic tendency, which often attend a disposition to worms. If an acid humour prevails in the first passage, the elixir may be combined with some drops of spirit of sal ammoniac; and if the child has a puny or debilitated habit, I blend the elixir with an equal portion of the tincture of rhubarb, extracted with brandy, either simple or impregnated with aromatic corroborants and steel. But in obstinate cases of this sort, the aforesaid mixture of equal parts of the syrup of the juice of bear's-foot, and the tincture of rhubarb, is a more efficacious medicine (10.): after the use of it, in case of a chlorosis, or leucophlegmatic habit of body, it will be proper to give an electuary composed of prepared steel, orange peel, and syrup of sugar. But if the patient is very young, the tincture of the bark may be given in cold spring water, or in some simple distilled water, sweetened, in lieu of the said electuary.





Dr. William
F. ...

